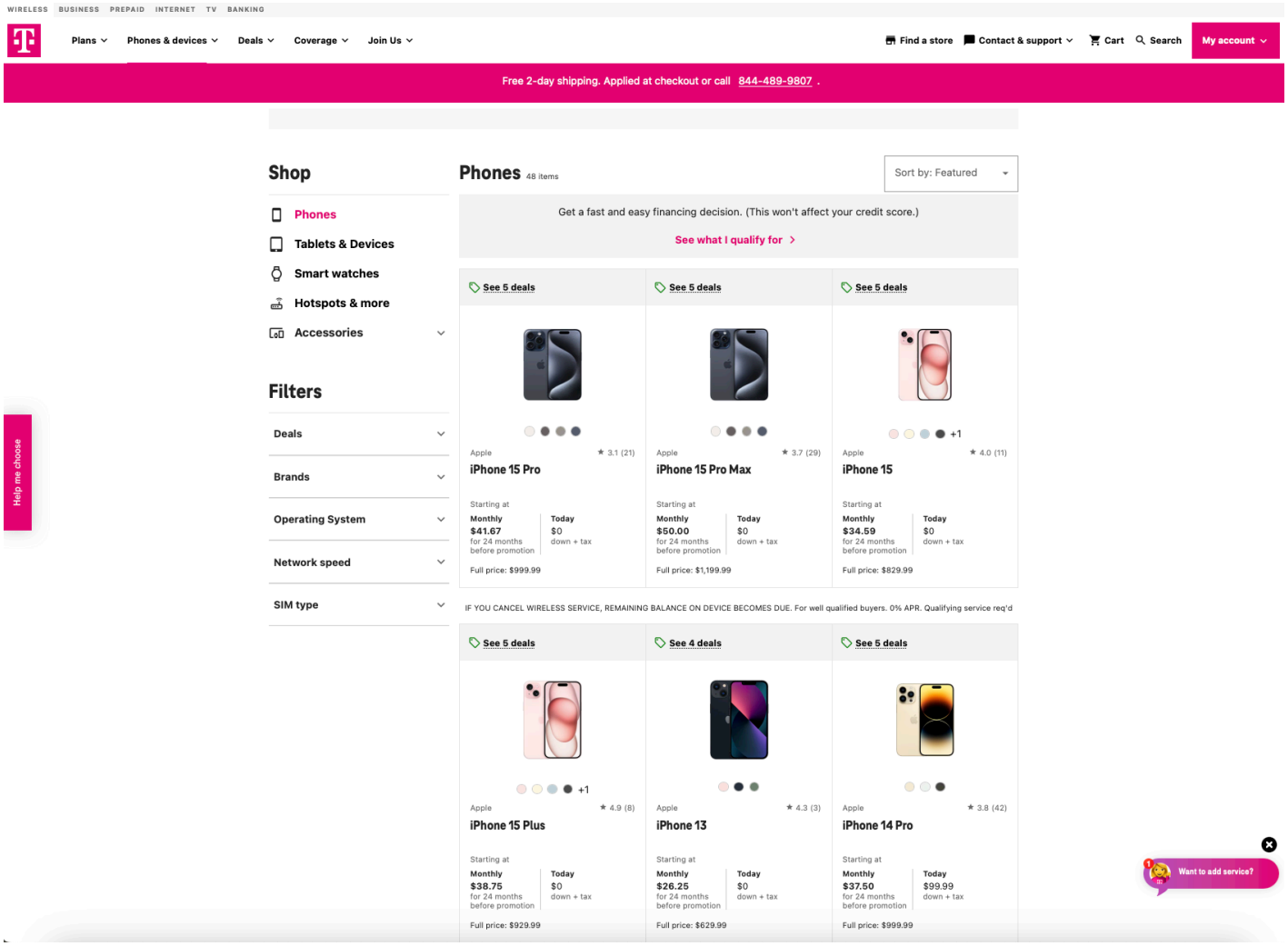
Exhibit J

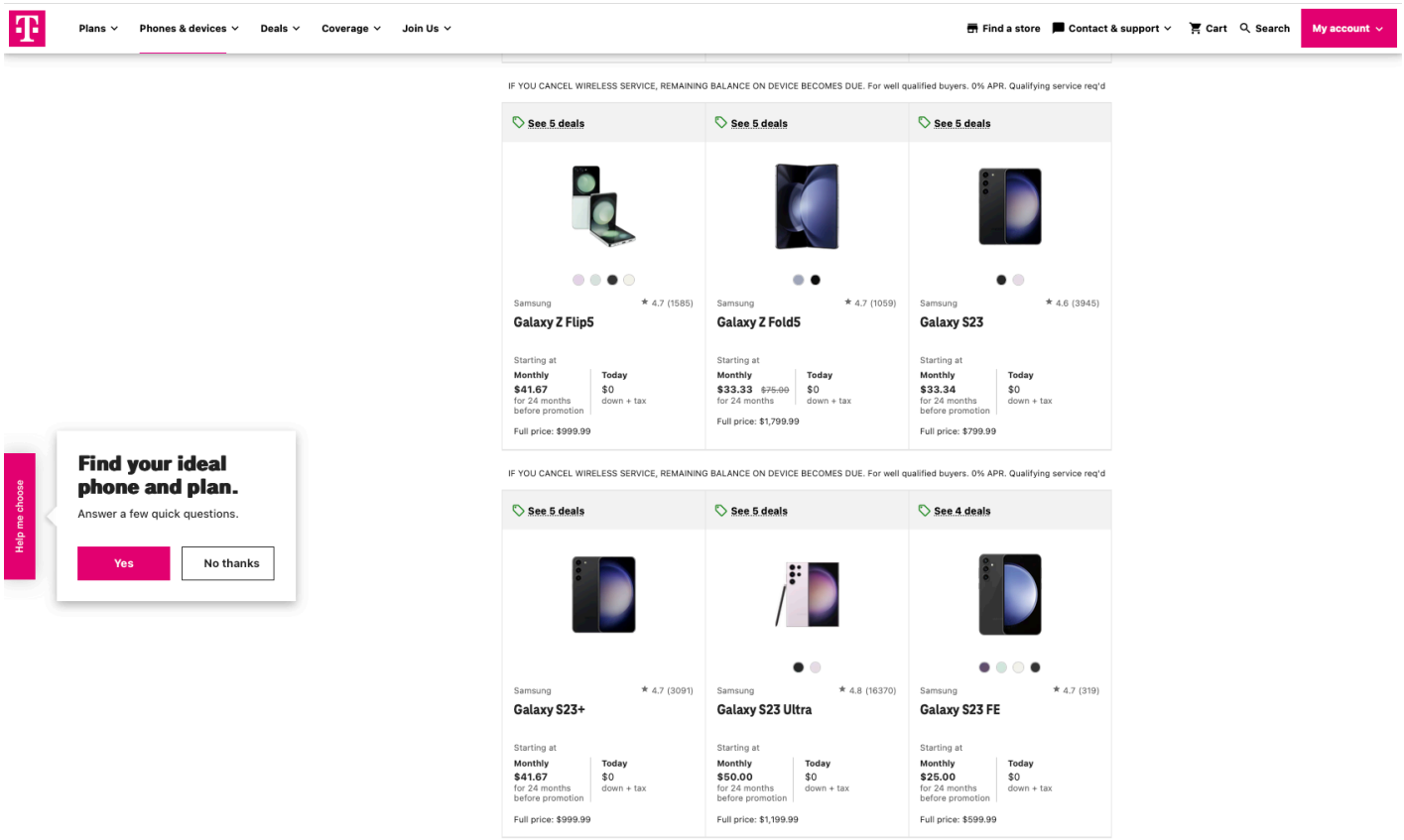
Exhibit J - U.S. Patent No. 9,215,613 ("'613 Patent")

Accused Instrumentalities: smartphones, basic phones, tablets, laptops, and hotspot devices sold (including those sold in bundles with data plans) or used by T-Mobile and all versions and variations thereof ("Accused Instrumentalities") since the issuance of U.S. Pat. No. 9,215,613 (the "Asserted Patent").

Claim 1

Claim	Public Documentation
[1pre] A wireless end-user device, comprising:	The Accused Instrumentalities include "A wireless end-user device, comprising." For example, T-Mobile sells and uses devices described by T-Mobile's website below (e.g., devices made by Samsung, Apple, Motorola, Google, Nokia, etc.). These devices constitute a wireless end-user device as described in claim 1. *See, e.g.* https://www.t-mobile.com/cell-phones

Claim	Public Documentation
	

Claim	Public Documentation
	 ; *see also* https://www.t-mobile.com/tablets; https://www.t-mobile.com/smart-watches; https://www.t-mobile.com/hotspots-iot-connected-devices.
[1a] a wireless wide area network (WWAN) modem to communicate data for Internet service activities between the device and at least one WWAN, when configured for and connected to the WWAN;	The Accused Instrumentalities include "a wireless wide area network (WWAN) modem to communicate data for Internet service activities between the device and at least one WWAN, when configured for and connected

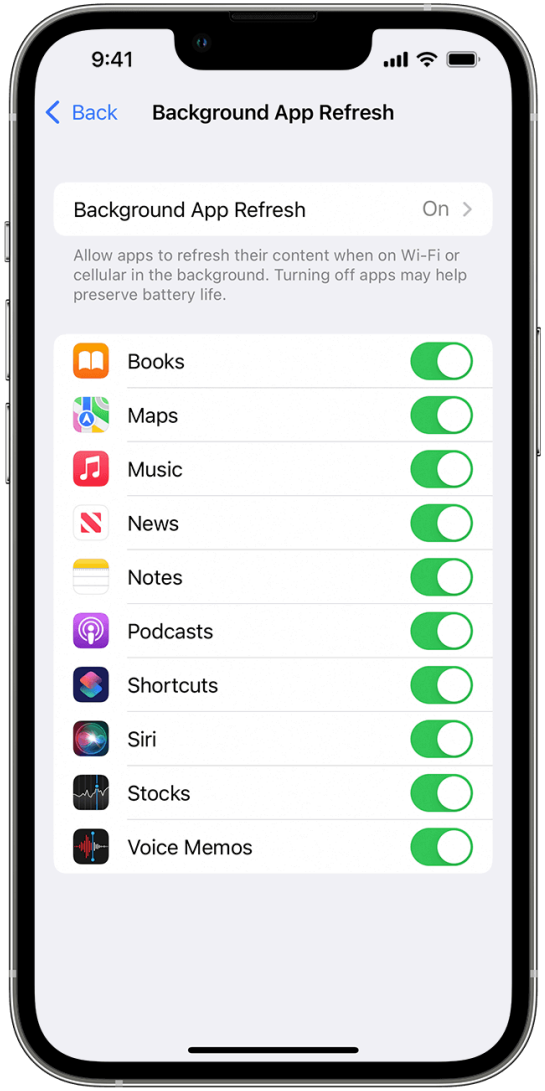
Claim	Public Documentation
	to the WWAN." This WWAN modem in the Accused Instrumentalities provides a connection to a T-Mobile's wireless network. For example, Apple's devices, including the iPhone 15 Pro, are sold or used by T-Mobile and comprise a wireless modem for communicating with mobile service base stations. *See, e.g.*, https://www.apple.com/iphone-15-pro/specs/:

Cellular and Wireless	**Model A2848***	5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79) 5G NR mmWave (Bands n258, n260, n261) FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71) TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53) UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz) GSM/EDGE (850, 900, 1800, 1900 MHz)
	Model A2849*	5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79) 5G NR mmWave (Bands n258, n260, n261) FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71) TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53) UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz) GSM/EDGE (850, 900, 1800, 1900 MHz)
	All models	5G (sub-6 GHz and mmWave) with 4x4 MIMO[9] Gigabit LTE with 4x4 MIMO and LAA[9] Wi-Fi 6E (802.11ax) with 2x2 MIMO[10] Bluetooth 5.3 Second-generation Ultra Wideband chip[11] Thread networking technology NFC with reader mode Express Cards with power reserve

Claim	Public Documentation
[1b] a wireless local area network (WLAN) modem to communicate data for Internet service activities between the device and at least one WLAN, when configured for and connected to the WLAN;	The Accused Instrumentalities include "a wireless local area network (WLAN) modem to communicate data for Internet service activities between the device and at least one WLAN, when configured for and connected to the WLAN." For example, Apple's devices, including the iPhone 15 Pro, are sold or used by T-Mobile and comprises a wi-fi modem for communicating over a wi-fi networks. *See, e.g.*, https://www.apple.com/iphone-15-pro/specs/:

Cellular and Wireless	**Model A2848***	5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79)
		5G NR mmWave (Bands n258, n260, n261)
		FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71)
		TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53)
		UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)
		GSM/EDGE (850, 900, 1800, 1900 MHz)
	Model A2849*	5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79)
		5G NR mmWave (Bands n258, n260, n261)
		FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71)
		TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53)
		UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)
		GSM/EDGE (850, 900, 1800, 1900 MHz)
	All models	5G (sub-6 GHz and mmWave) with 4x4 MIMO[9]
		Gigabit LTE with 4x4 MIMO and LAA[9]
		Wi-Fi 6E (802.11ax) with 2x2 MIMO[10]
		Bluetooth 5.3
		Second-generation Ultra Wideband chip[11]
		Thread networking technology
		NFC with reader mode
		Express Cards with power reserve

Claim	Public Documentation
[1c] a non-transient memory to store	The Accused Instrumentalities include "a non-transient memory to store." For example, Apple's devices, including the iPhone 15 Pro, comprise a memory. As a specific example, the iPhone 15 Pro sold or used by T-Mobile includes 128GB, 256GB, 512GB, or 1TB of memory storage, in which control policies for applications are stored. *See, e.g.*, https://www.apple.com/iphone-15-pro/specs/: 
[1d] a differential traffic control policy list distinguishing between a first one or more applications resident on the device and a second one or more applications and/or services resident on the device, and	The Accused Instrumentalities comprise "a differential traffic control policy list distinguishing between a first one or more applications resident on the device and a second one or more applications and/or services resident on the device." For example, Apple's devices, including the iPhone 15 Pro, run the Apple iOS Operating System, which comprise at least Apple's "Background App Refresh" and "Low Power Mode" features include policies which distinguish between applications and/or services. *See, e.g.*, https://support.apple.com/en-us/HT202070:

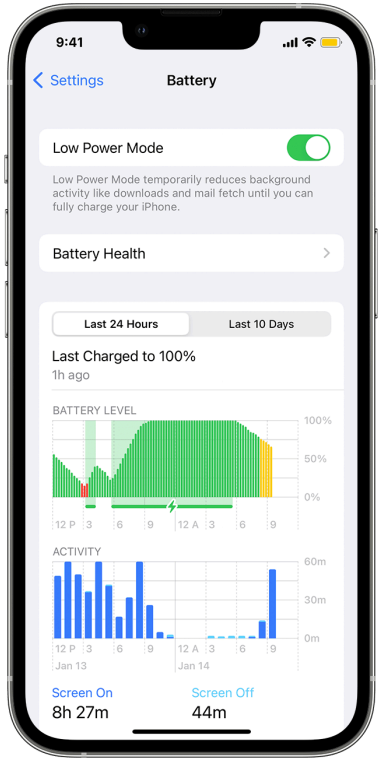
Claim	Public Documentation
	 ## Use Background App Refresh After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content. If you want suspended apps to check for new content, go to Settings > General > Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again. https://support.apple.com/en-us/HT205234:

Use Low Power Mode to save battery life on your iPhone or iPad

Low Power Mode reduces the amount of power that your iPhone or iPad uses when the battery gets low.

To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.



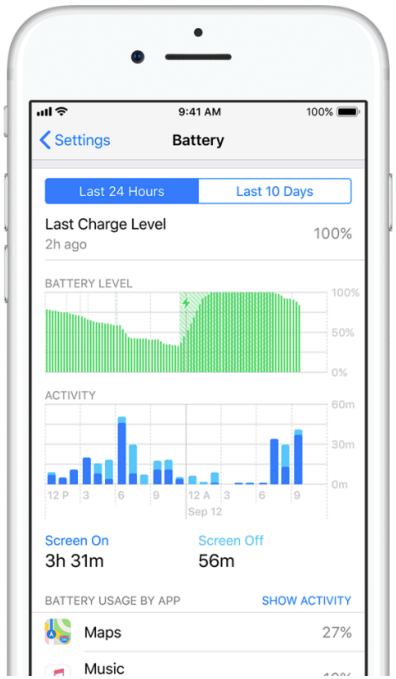
Low Power Mode reduces or affects these features:

- 5G (except for video streaming) on iPhone 12 and iPhone 13 models[1]
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display[2]
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

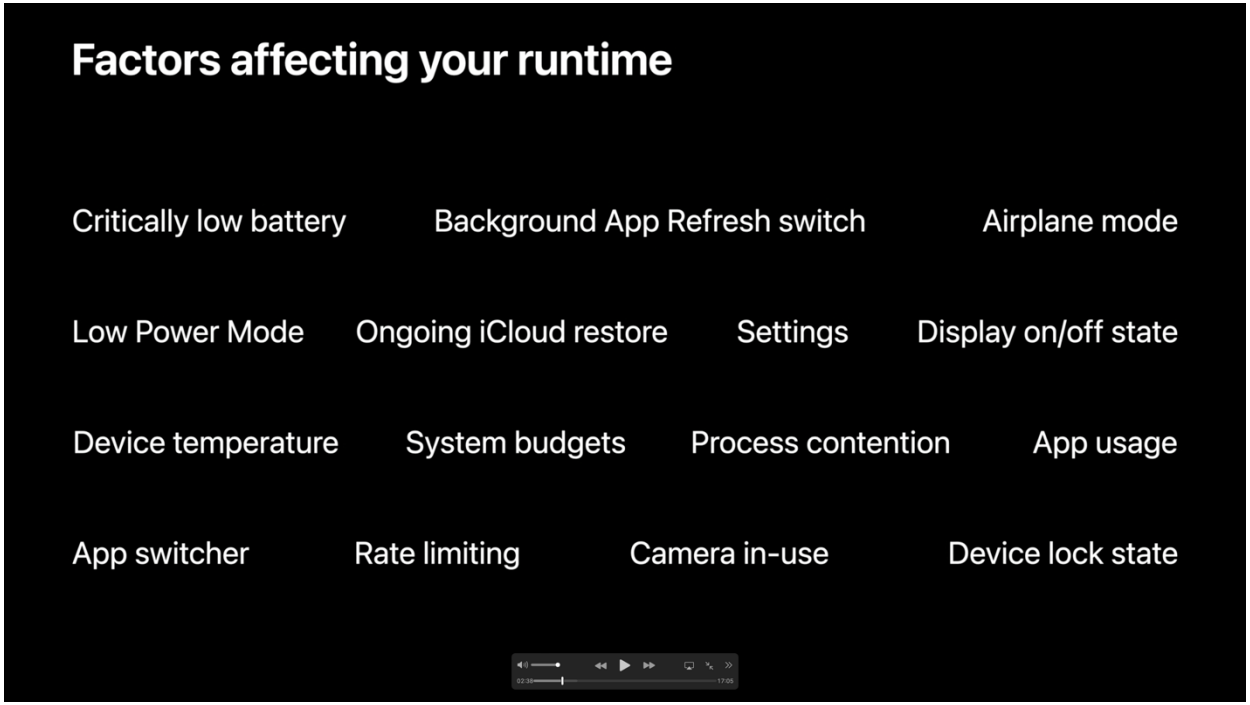
When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.

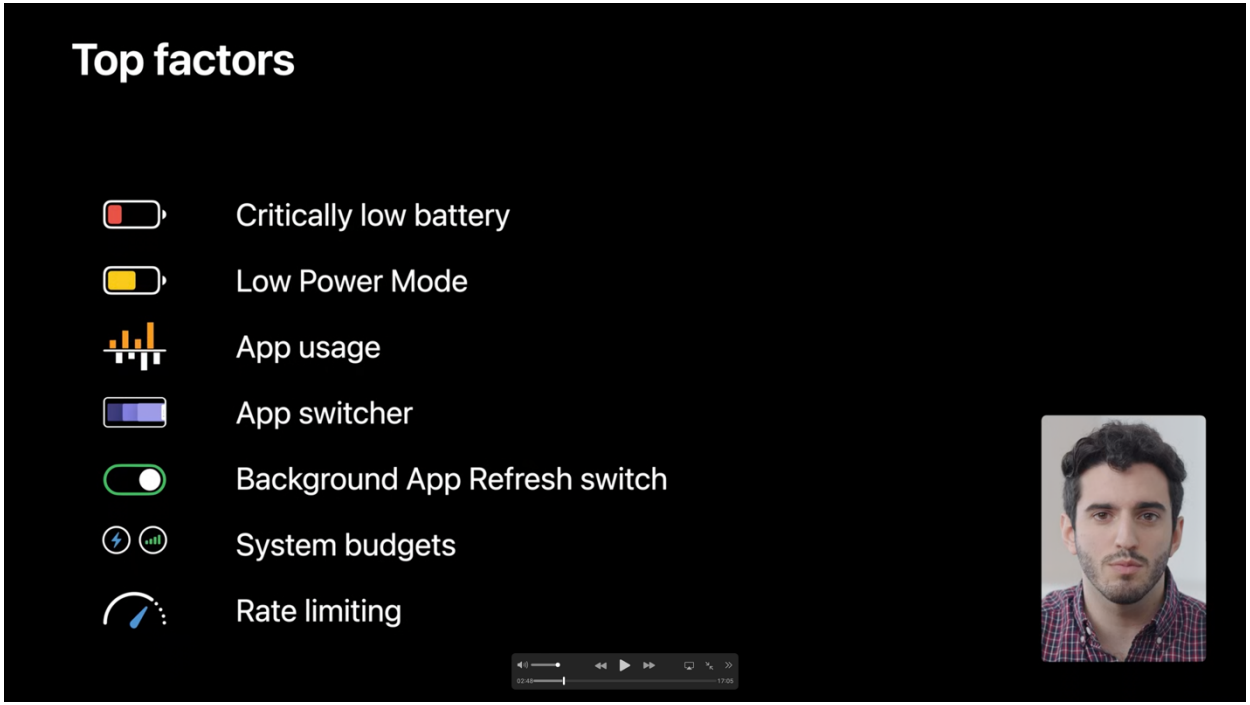
1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).

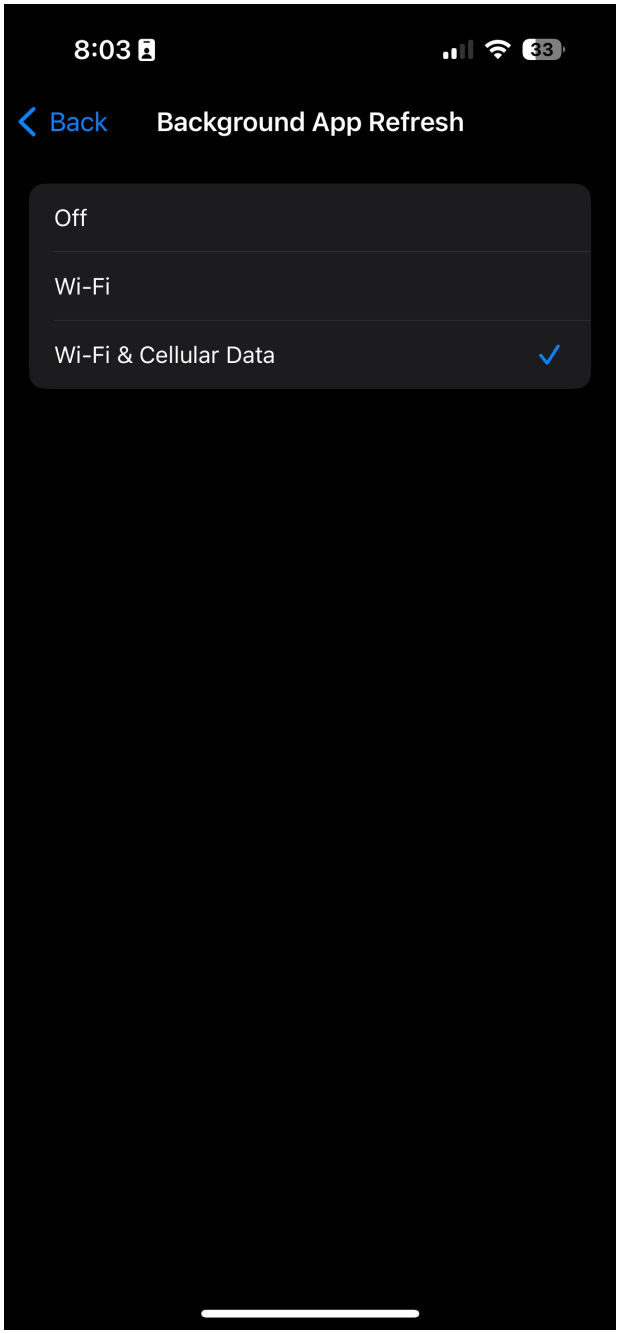
2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

Claim	Public Documentation
	https://www.apple.com/batteries/maximizing-performance/: **View Battery Usage information** With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings > Battery. Here are the messages you may see listed below the apps you've been using: **Background Activity.** This indicates that the battery was used by the app while it was in the background — that is, while you were using another app. • To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings > General > Background App Refresh and select Wi-Fi, Wi-Fi & Cellular Data, or Off to turn off Background App Refresh entirely. • If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings > Accounts & Passwords > Fetch New Data.  ; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/; https://developer.apple.com/documentation/backgroundtasks/; https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-

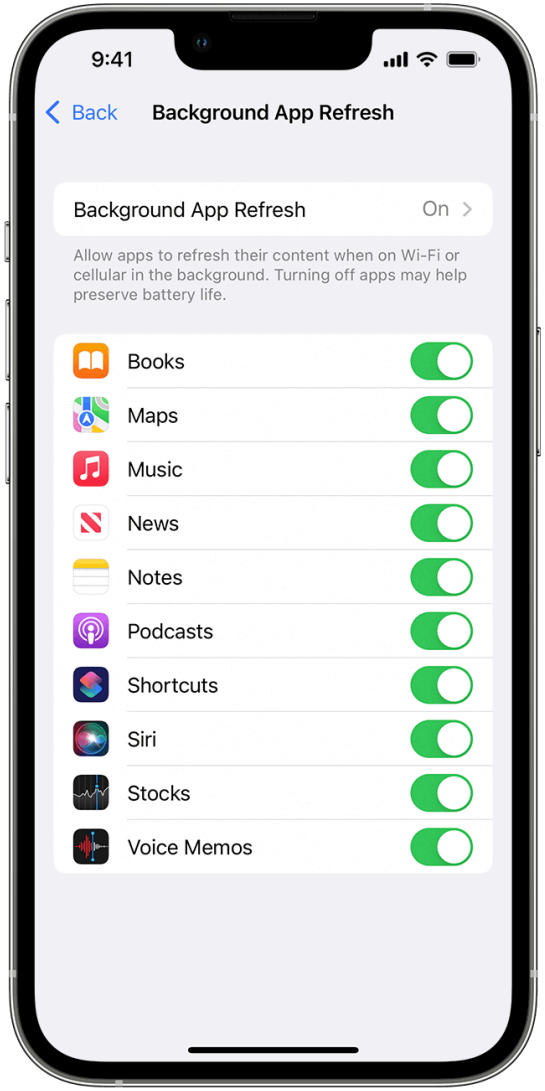
Claim	Public Documentation
	ing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/; https://developer.apple.com/documentation/backgroundtasks https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask; https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask; https://developer.apple.com/documentation/backgroundtasks/bgtask; https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/; https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate; https://developer.apple.com/documentation/uikit/uiapplication/state; https://developer.apple.com/documentation/foundation/url_loading_system; https://developer.apple.com/documentation/foundation/urlsession; https://developer.apple.com/documentation/devicemanagement/mail; https://developer.apple.com/documentation/security/secure_transport/using_the_secure_socket_layer_for_network_communication; https://developer.apple.com/documentation/networkextension/personal_vpn; https://developer.apple.com/documentation/foundation/nsproxy; https://developer.apple.com/documentation/messages; https://developer.apple.com/documentation/avfoundation/avplayer; https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback; https://developer.apple.com/videos/play/wwdc2019/707/; https://developer.apple.com/videos/play/wwdc2020/10063:

Claim	Public Documentation
	

Claim	Public Documentation
	 ; *see also* exemplary screen shots below:


8:03
33
Back
Background App Refresh
Off
Wi-Fi
Wi-Fi & Cellular Data

Claim	Public Documentation
	 *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com; https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data.
[1e] a differential traffic control policy applicable to at least some Internet service activities by or on behalf of the first one or more applications;	The Accused Instrumentalities comprises "a differential traffic control policy applicable to at least some Internet service activities by or on behalf of the first one or more applications." For example, Apple's devices, including the iPhone 15 Pro, run the Apple iOS Operating System, which comprise at least Apple's "Background App Refresh" and "Low Power Mode" features include policies which apply to at least some activities by or on behalf of applications and/or services. *See, e.g.*, https://support.apple.com/en-us/HT202070:

Claim	Public Documentation
	# Use Background App Refresh After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content. If you want suspended apps to check for new content, go to Settings > General > Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.  https://support.apple.com/en-us/HT205234:

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Low Power Mode reduces or affects these features:

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- Auto-Lock (defaults to 30 seconds)
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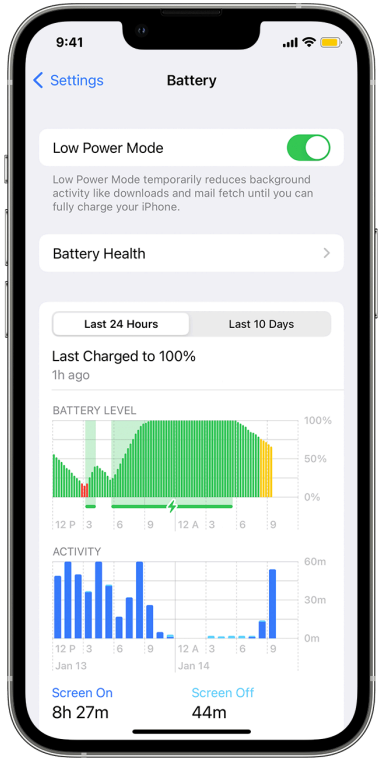
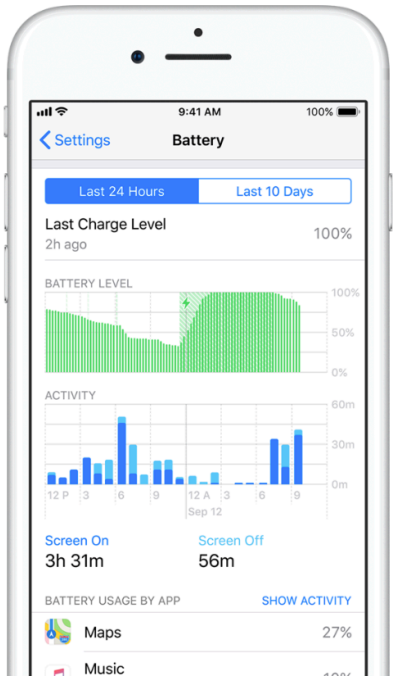
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.

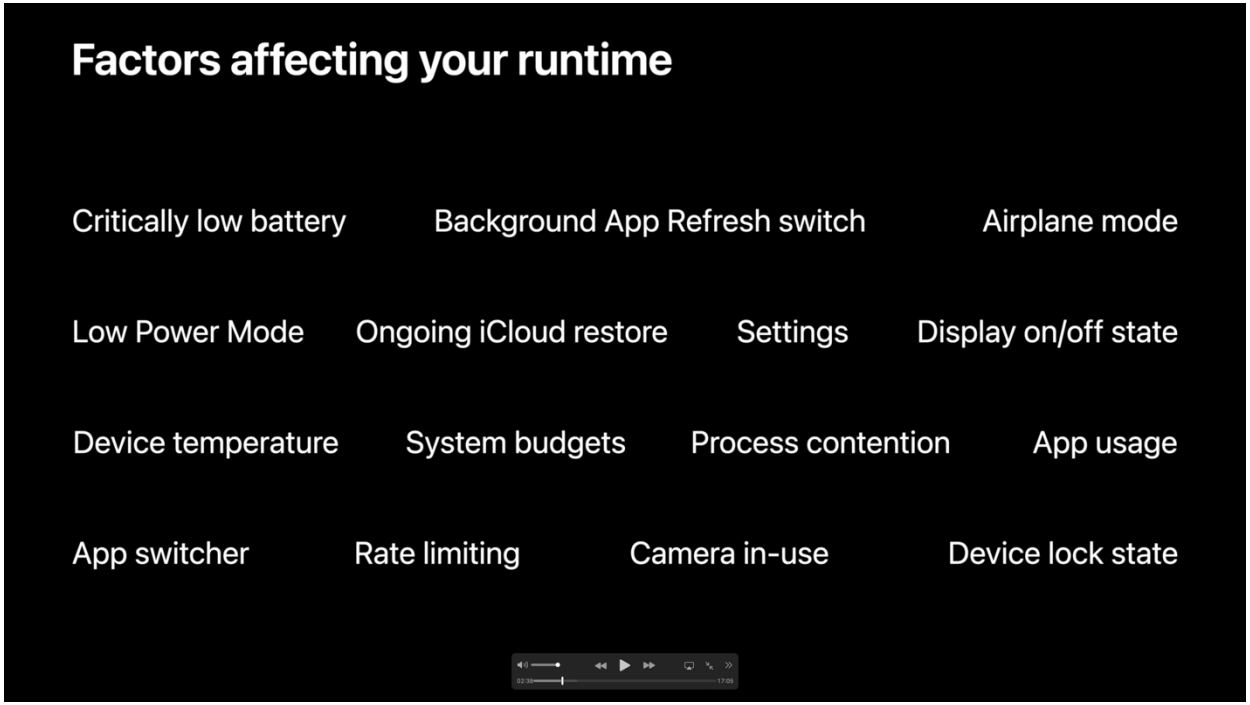


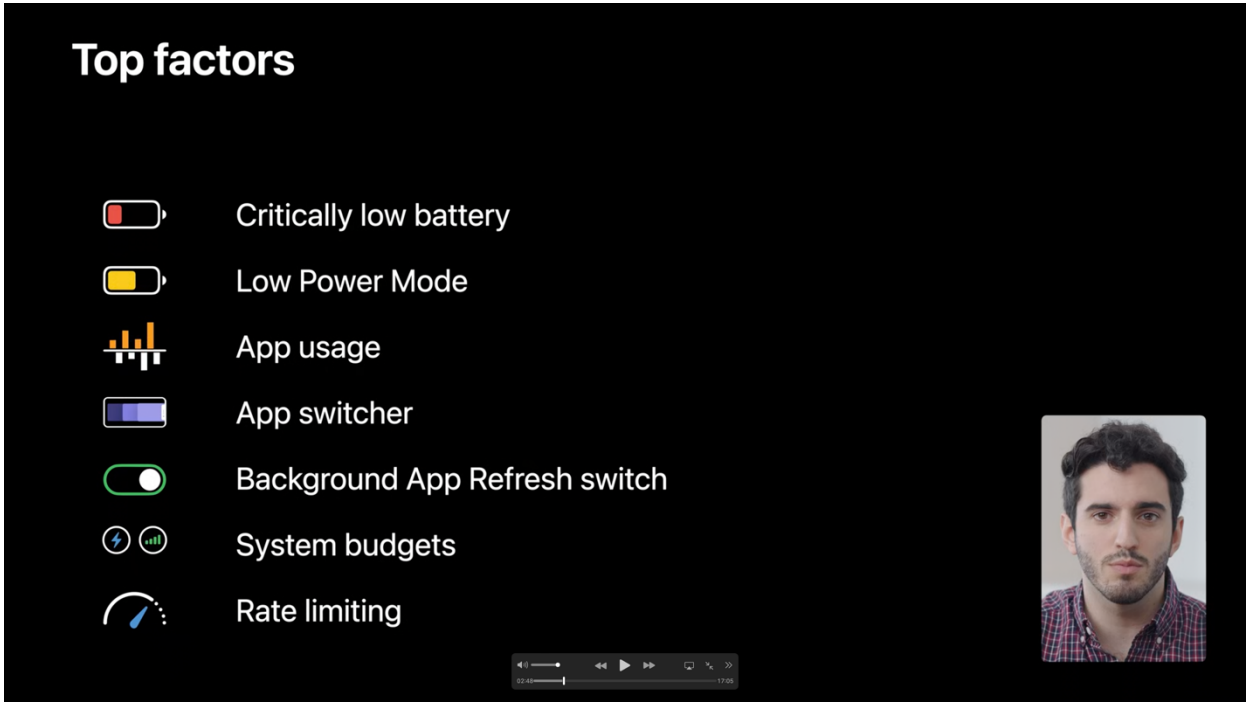
1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).

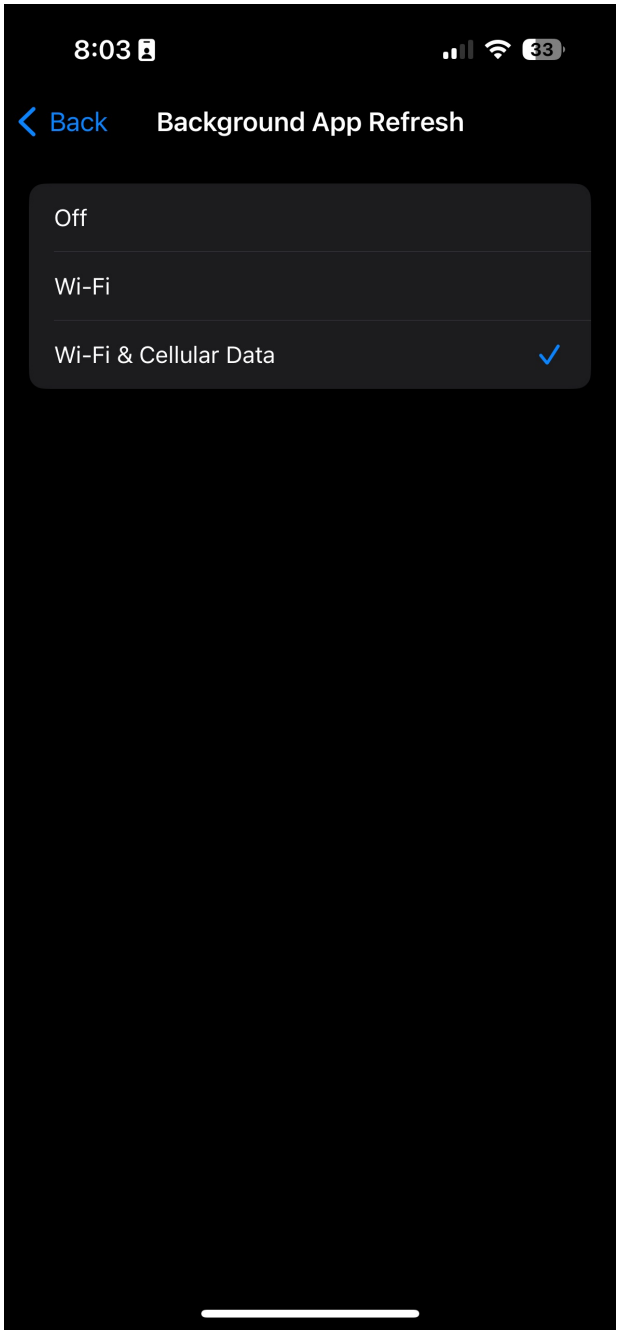
2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

Claim	Public Documentation
	https://www.apple.com/batteries/maximizing-performance/: **View Battery Usage information** With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings > Battery. Here are the messages you may see listed below the apps you've been using: **Background Activity.** This indicates that the battery was used by the app while it was in the background — that is, while you were using another app. • To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings > General > Background App Refresh and select Wi-Fi, Wi-Fi & Cellular Data, or Off to turn off Background App Refresh entirely. • If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings > Accounts & Passwords > Fetch New Data.  ; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/; https://developer.apple.com/documentation/backgroundtasks/; https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-

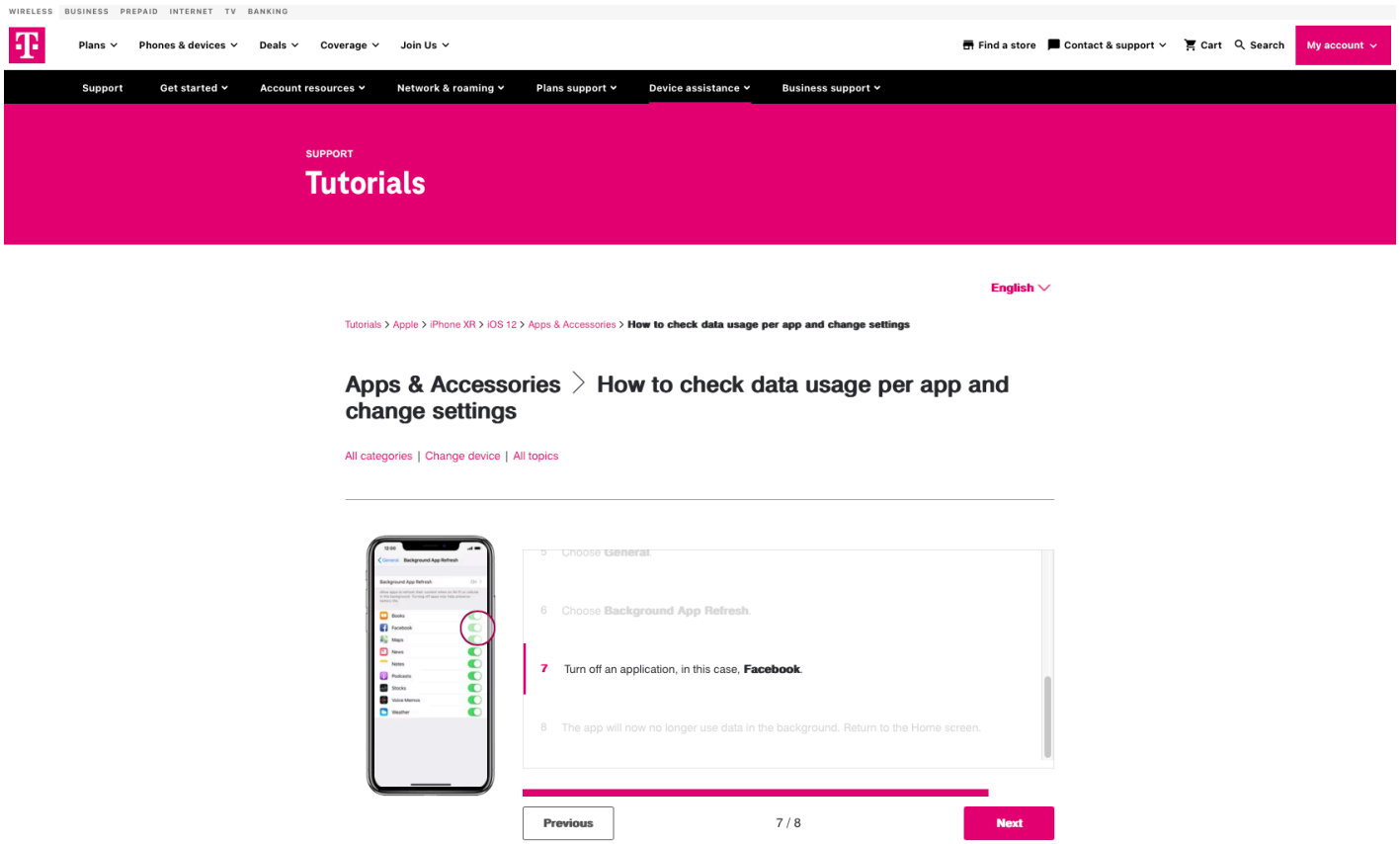
Claim	Public Documentation
	ing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/; https://developer.apple.com/documentation/backgroundtasks https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask; https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask; https://developer.apple.com/documentation/backgroundtasks/bgtask; https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/; https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate; https://developer.apple.com/documentation/uikit/uiapplication/state; https://developer.apple.com/documentation/foundation/url_loading_system; https://developer.apple.com/documentation/foundation/urlsession; https://developer.apple.com/documentation/devicemanagement/mail; https://developer.apple.com/documentation/security/secure_transport/using_the_secure_socket_layer_for_network_communication; https://developer.apple.com/documentation/networkextension/personal_vpn; https://developer.apple.com/documentation/foundation/nsproxy; https://developer.apple.com/documentation/messages; https://developer.apple.com/documentation/avfoundation/avplayer; https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback; https://developer.apple.com/videos/play/wwdc2019/707/; https://developer.apple.com/videos/play/wwdc2020/10063:

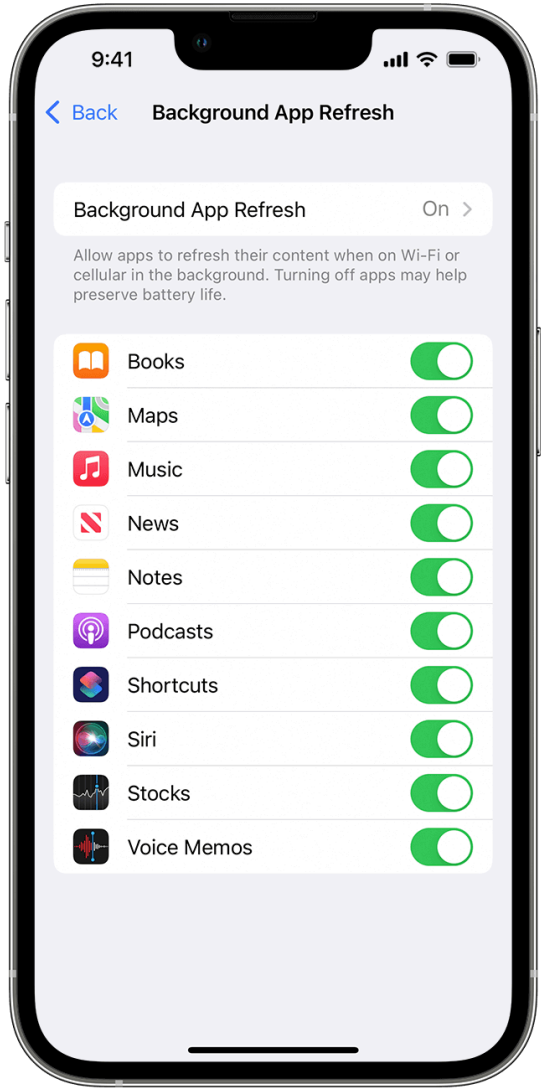
Claim	Public Documentation
	

Claim	Public Documentation
	 ; *see also* exemplary screen shots below:


8:03
33
Back
Background App Refresh
Off
Wi-Fi
Wi-Fi & Cellular Data

Claim	Public Documentation
	 *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com; https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data.
[1f] an interface to allow a user to augment the differential traffic control policy for the first one or more applications but not for the second one or more applications and/or services; and	The Accused Instrumentalities include "an interface to allow a user to augment the differential traffic control policy for the first one or more applications but not for the second one or more applications and/or services." For example, Apple's devices, including the iPhone 15 Pro, sold or used by T-Mobile include an interface which allow users to augment policies and settings for some applications and/or services, but not all applications and/or services (*e.g.*, system services). *See, e.g.*, https://www.t-mobile.com/support/tutorials/device/apple/iphone-xr/topic/apps-amp-accessories/how-to-check-data-usage-per-app-and-change-settings/7

Claim	Public Documentation
	 ; https://support.apple.com/en-us/HT202070:

Claim	Public Documentation
	# Use Background App Refresh After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content. If you want suspended apps to check for new content, go to Settings > General > Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.  https://support.apple.com/en-us/HT205234:

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Low Power Mode reduces or affects these features:

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- Auto-Lock (defaults to 30 seconds)
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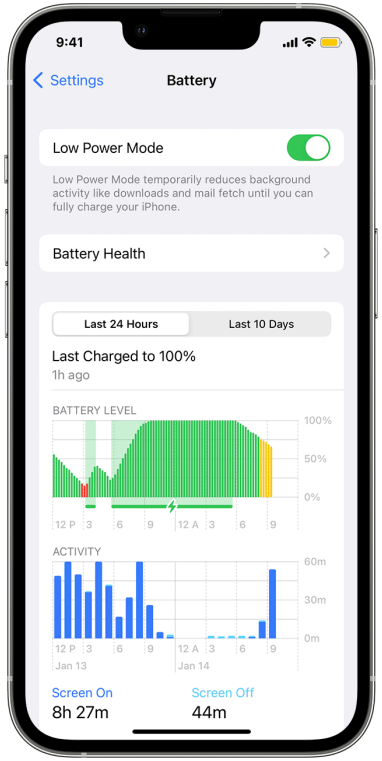

1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).

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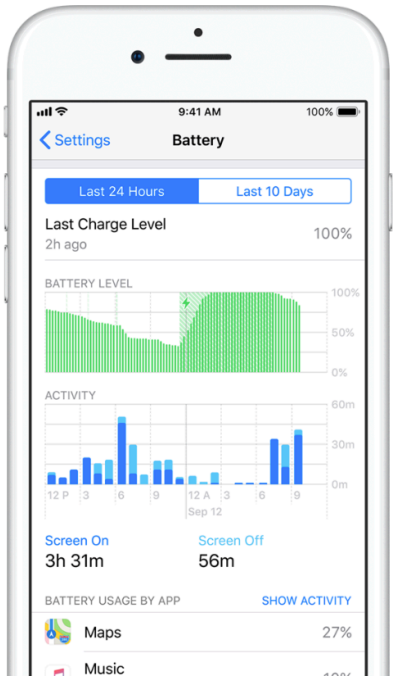
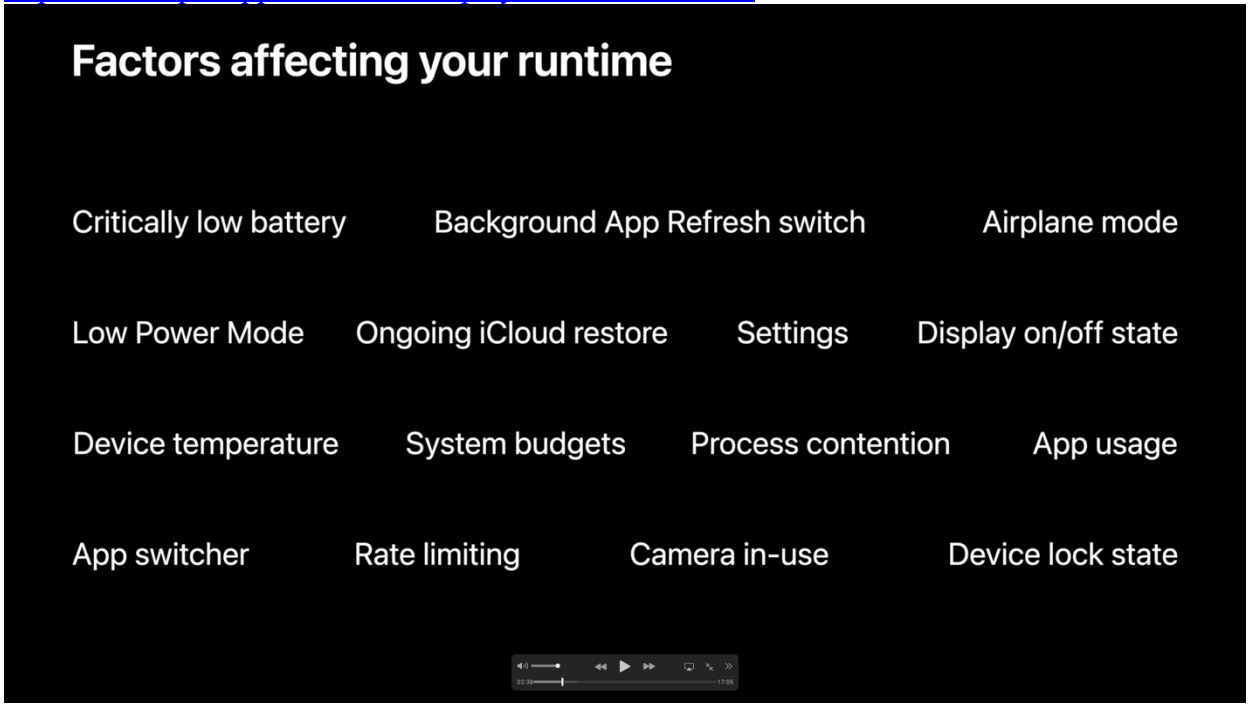
Claim	Public Documentation
	https://www.apple.com/batteries/maximizing-performance/: **View Battery Usage information** With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings > Battery. Here are the messages you may see listed below the apps you've been using: **Background Activity.** This indicates that the battery was used by the app while it was in the background — that is, while you were using another app. • To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings > General > Background App Refresh and select Wi-Fi, Wi-Fi & Cellular Data, or Off to turn off Background App Refresh entirely. • If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings > Accounts & Passwords > Fetch New Data.  ; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/; https://developer.apple.com/documentation/backgroundtasks/; https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-

Claim	Public Documentation
	ing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/; https://developer.apple.com/documentation/backgroundtasks https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask; https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask; https://developer.apple.com/documentation/backgroundtasks/bgtask; https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/; https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate; https://developer.apple.com/documentation/uikit/uiapplication/state; https://developer.apple.com/documentation/foundation/url_loading_system; https://developer.apple.com/documentation/foundation/urlsession; https://developer.apple.com/documentation/avfoundation/avplayer; https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback; https://developer.apple.com/videos/play/wwdc2019/707/; https://developer.apple.com/videos/play/wwdc2020/10063: 

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	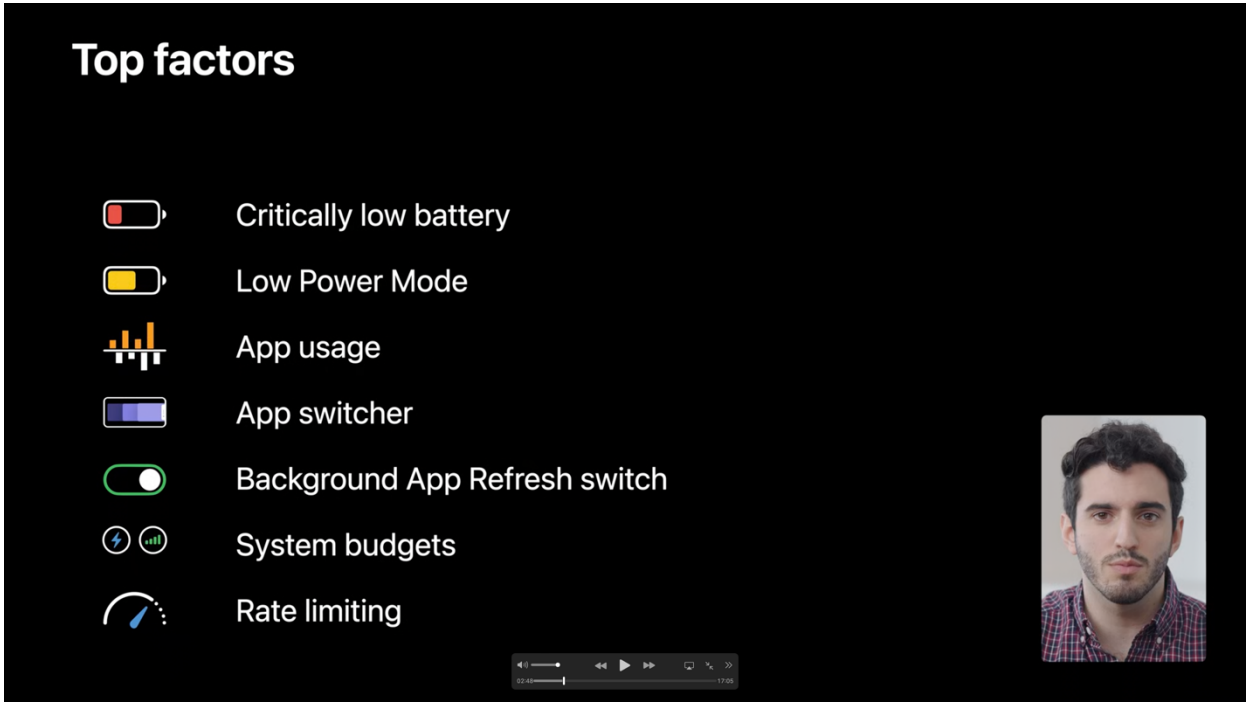

Claim	Public Documentation
	 As yet another example, the Accused Instrumentalities determine aspects of policies based on information from a network element. *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com; https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data; https://www.t-mobile.com/apps/t-mobile-app; https://www.t-mobile.com/apps/t-mobile-family-mode; https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings; https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings.
[1g] one or more processors configured to	The Accused Instrumentalities include "one or more processors." For example, Apple's devices, including the iPhone 15 Pro, comprise one or more processors. As a specific example, the iPhone 15 Pro has an A17 Pro Chip. *See, e.g.*, https://www.apple.com/iphone-15-pro/specs/

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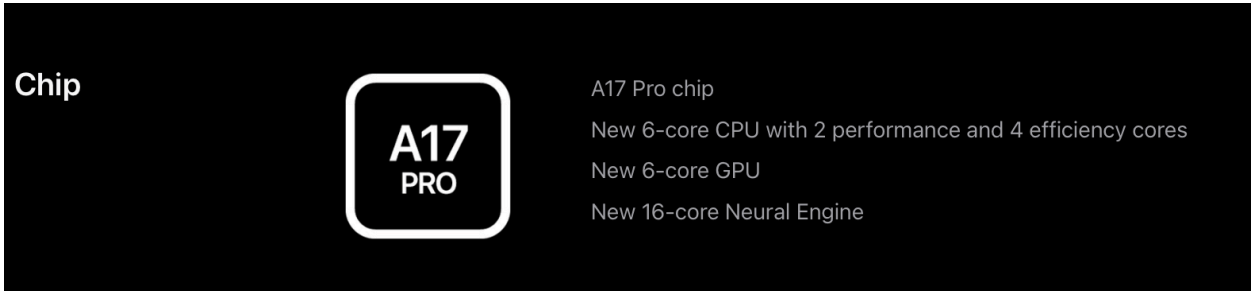
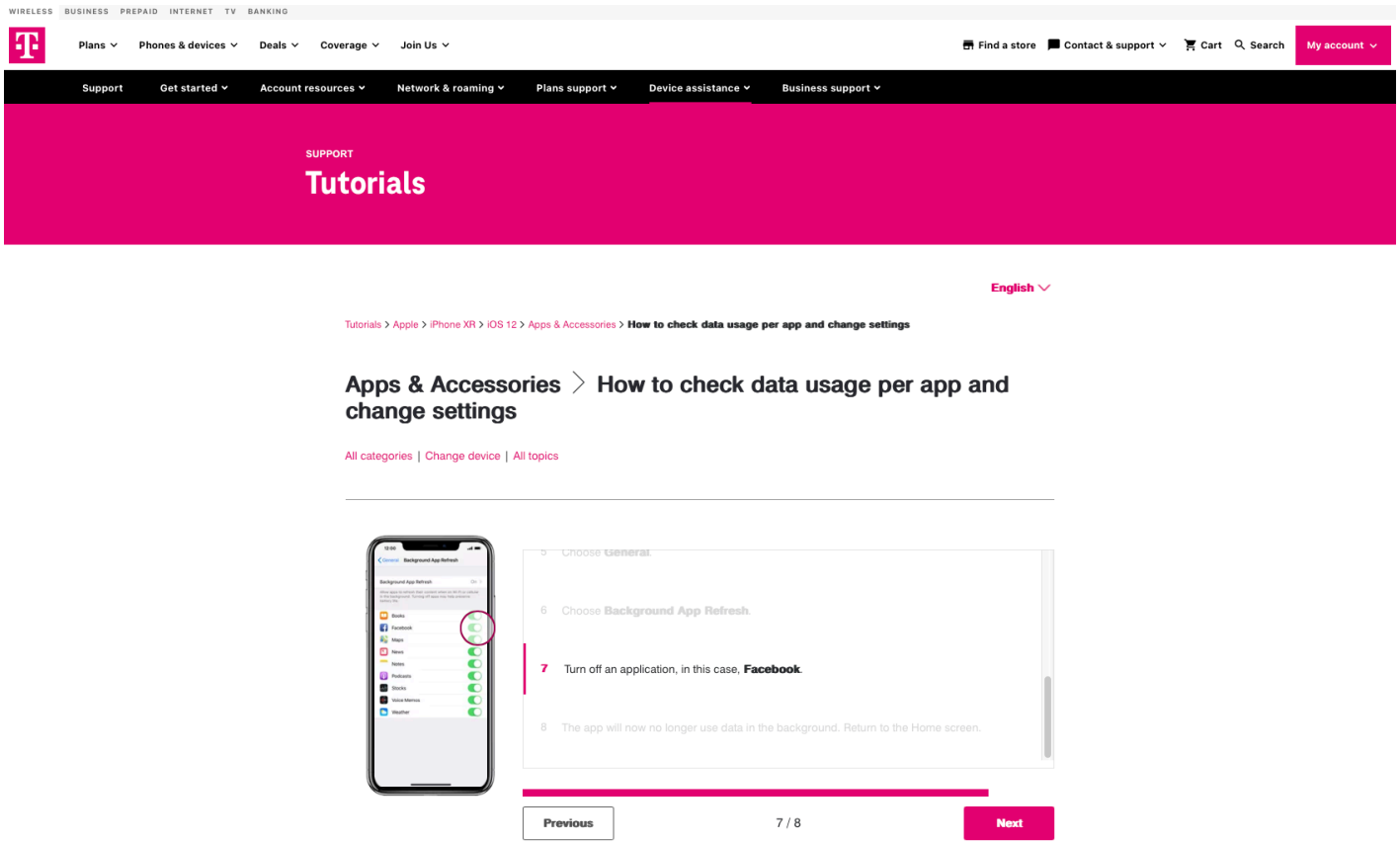
	
[1h] classify a wireless network to which the device currently connects in order to communicate data for Internet service activities as at least one of a plurality of network types that the device can connect with,	The Accused Instrumentalities "classify a wireless network to which the device currently connects in order to communicate data for Internet service activities as at least one of a plurality of network types that the device can connect with." For example, Apple's devices, including the iPhone 15 Pro, sold and used by T-Mobile classify wireless network connections for communicating internet service activities. *See, e.g.,* https://www.t-mobile.com/support/tutorials/device/apple/iphone-xr/topic/apps-amp-accessories/how-to-check-data-usage-per-app-and-change-settings/7

Claim	Public Documentation
	 ; https://support.apple.com/en-us/HT202070:

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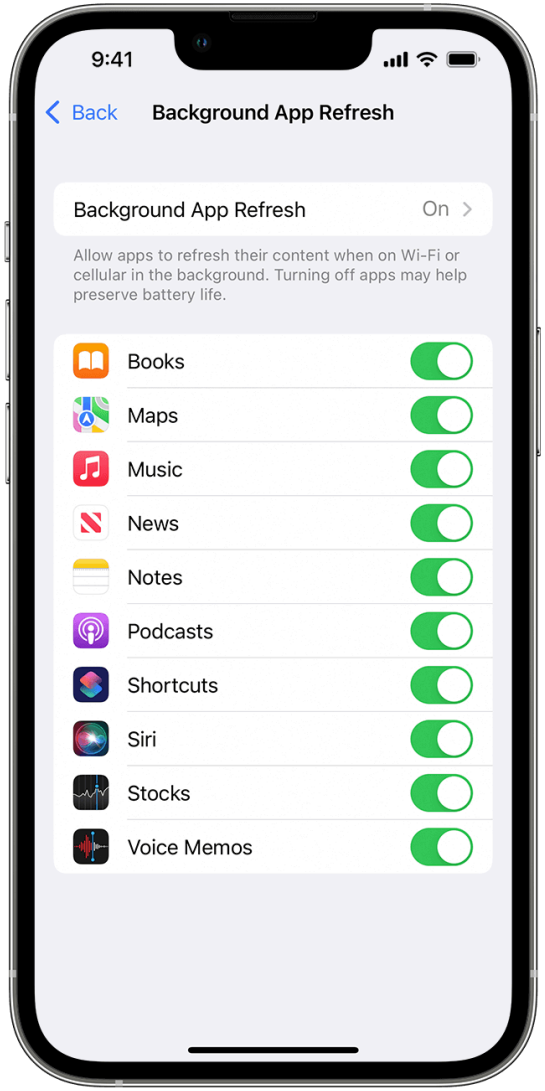
	# Use Background App Refresh After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content. If you want suspended apps to check for new content, go to Settings > General > Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.  https://support.apple.com/en-us/HT205234:

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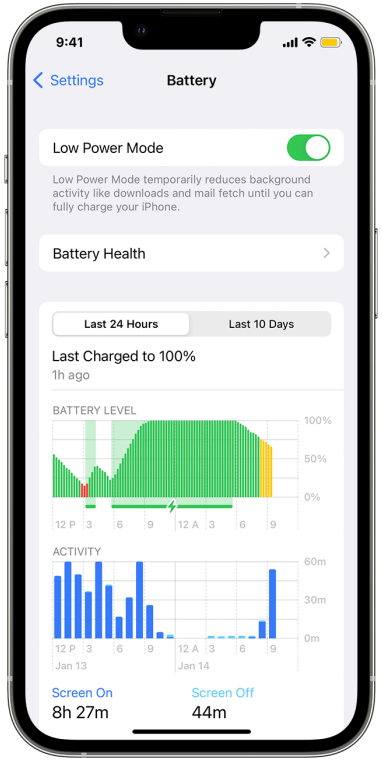

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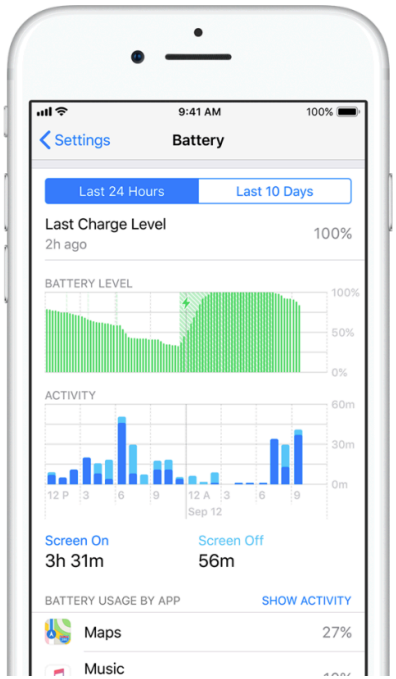
	https://www.apple.com/batteries/maximizing-performance/: **View Battery Usage information** With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings > Battery. Here are the messages you may see listed below the apps you've been using: **Background Activity.** This indicates that the battery was used by the app while it was in the background — that is, while you were using another app. • To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings > General > Background App Refresh and select Wi-Fi, Wi-Fi & Cellular Data, or Off to turn off Background App Refresh entirely. • If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings > Accounts & Passwords > Fetch New Data.  ; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate:

Claim	Public Documentation
	Instance Property **applicationState** The app's current state, or that of its most active scene. iOS 4.0+ iPadOS 4.0+ Mac Catalyst 13.1+ tvOS 9.0+ visionOS 1.0+ Beta `var applicationState: UIApplication.State { get }` **Discussion** The behavior of this property depends on whether your app is scene-based. In a scene-based app, this property takes the value of the most active scene, which it determines from each scene's `activationState` property. A scene-based app launches in the background state, and transitions between its states as scenes connect, change their states, and disconnect. For scene-based apps, use `UISceneDelegate` to respond to changes in an individual scene's life cycle. In a sceneless app, the property's value is always the app's current state. The app is inactive at launch, and then is generally in either an active or background state. The app may become inactive for a short period — for example, when transitioning between active and background states, when the system presents an alert in front of it, or when the system displays the application switcher. For sceneless apps, use `UIApplicationDelegate` to respond to the app's life cycle changes. ; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/; https://developer.apple.com/documentation/backgroundtasks/;

Claim	Public Documentation
	https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/; https://developer.apple.com/documentation/backgroundtasks https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask; https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask; https://developer.apple.com/documentation/backgroundtasks/bgtask; https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/; https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate; https://developer.apple.com/documentation/uikit/uiapplication/state; https://developer.apple.com/documentation/foundation/url_loading_system; https://developer.apple.com/documentation/foundation/urlsession; https://developer.apple.com/documentation/avfoundation/avplayer; https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback; https://developer.apple.com/videos/play/wwdc2019/707/; https://developer.apple.com/videos/play/wwdc2020/10063:

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	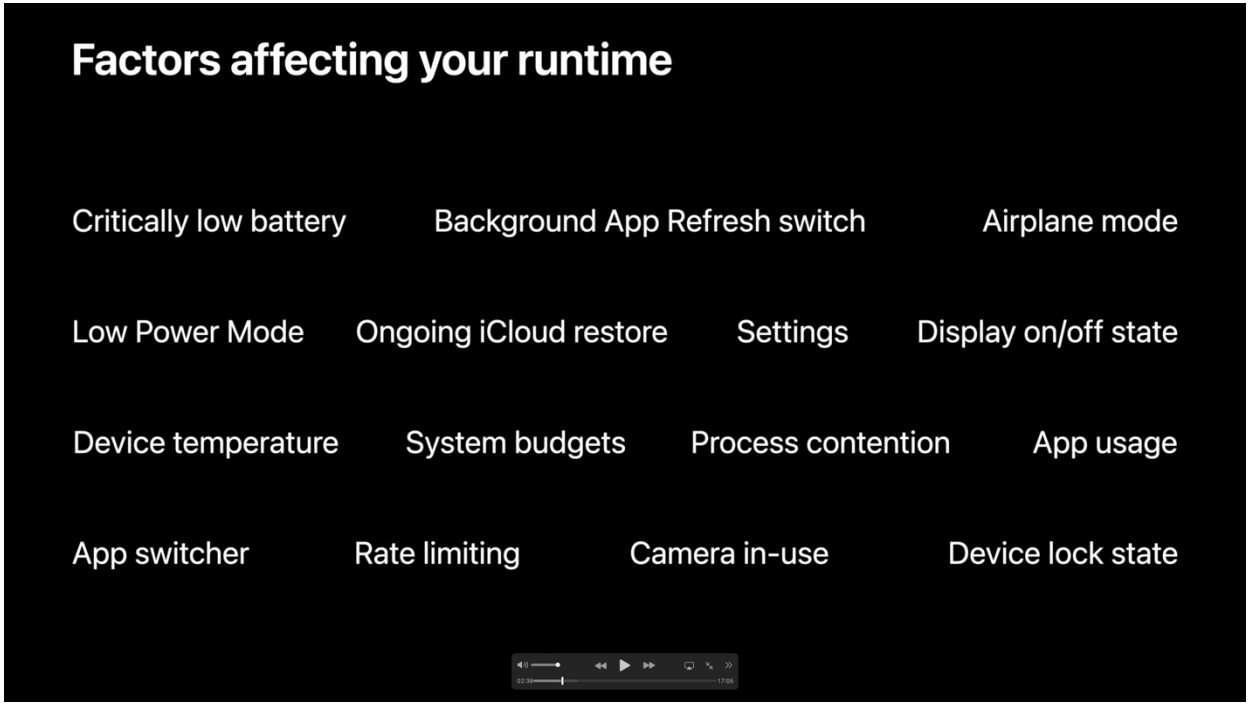

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	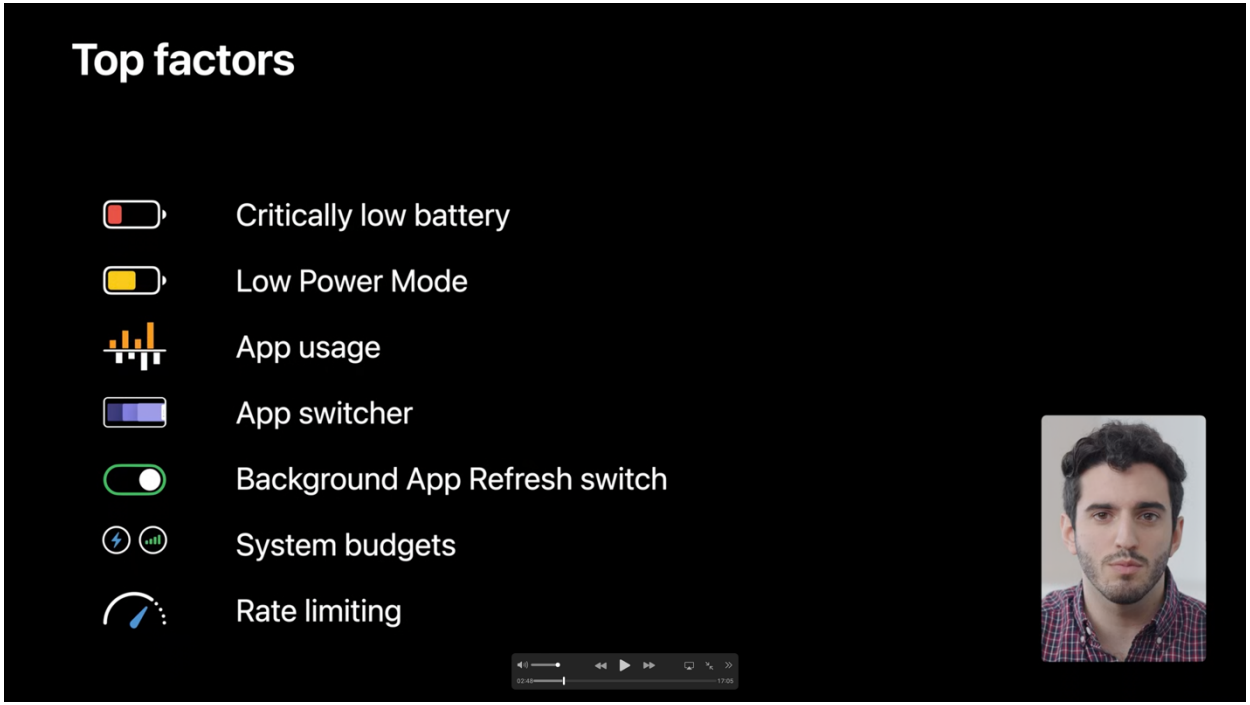

Claim	Public Documentation
	 *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com; https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data.
[1i] classify whether a particular application capable of both interacting with the user in a user interface foreground of the device, and at least some Internet service activities when not interacting with the user in the device user interface foreground,	The Accused Instrumentalities "classify whether a particular application capable of both interacting with the user in a user interface foreground of the device, and at least some Internet service activities when not interacting with the user in the device user interface foreground." For example, Apple's devices, including the iPhone 15 Pro, sold and used by T-Mobile classify applications and internet service activities in both foreground and background. *See, e.g.*, https://support.apple.com/en-us/HT202070:

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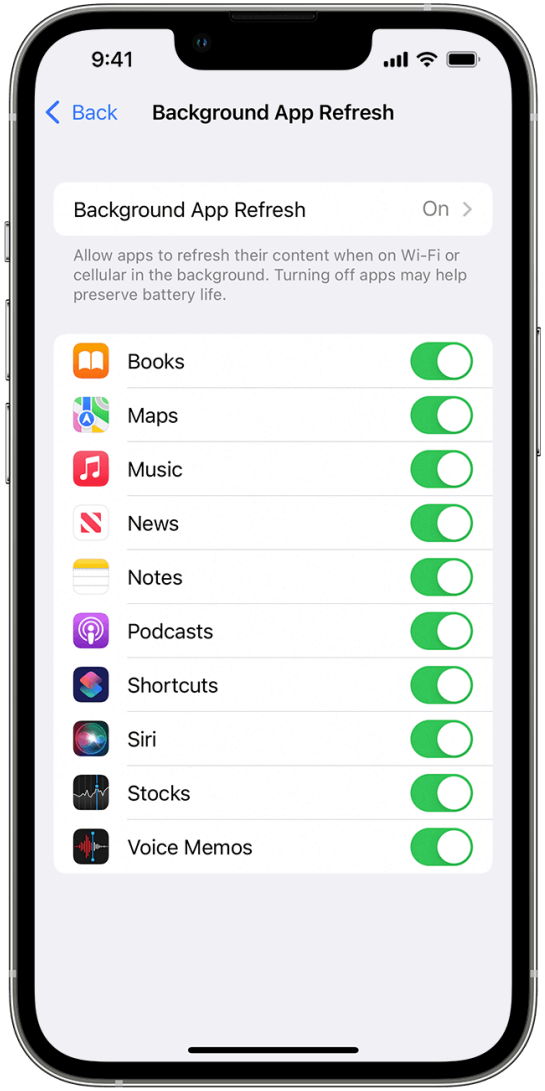
	# Use Background App Refresh After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content. If you want suspended apps to check for new content, go to Settings > General > Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.  https://support.apple.com/en-us/HT205234:

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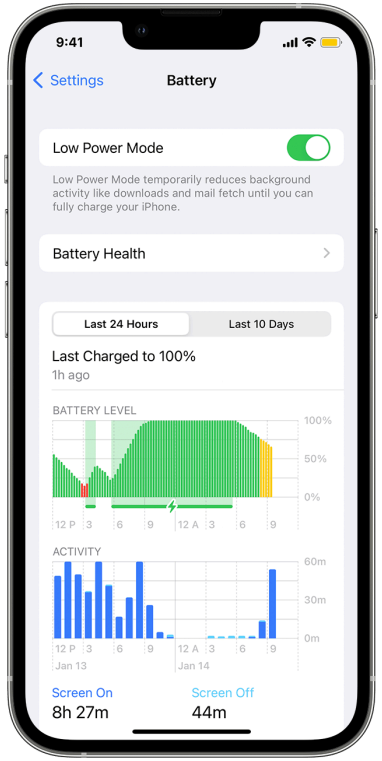

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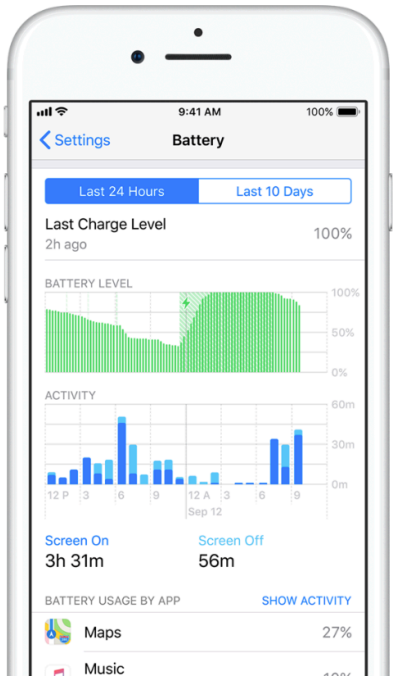
	https://www.apple.com/batteries/maximizing-performance/: **View Battery Usage information** With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings > Battery. Here are the messages you may see listed below the apps you've been using: **Background Activity.** This indicates that the battery was used by the app while it was in the background — that is, while you were using another app. • To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings > General > Background App Refresh and select Wi-Fi, Wi-Fi & Cellular Data, or Off to turn off Background App Refresh entirely. • If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings > Accounts & Passwords > Fetch New Data.  ; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate:

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	Instance Property **applicationState** The app's current state, or that of its most active scene. iOS 4.0+ iPadOS 4.0+ Mac Catalyst 13.1+ tvOS 9.0+ visionOS 1.0+ Beta `var applicationState: UIApplication.State { get }` **Discussion** The behavior of this property depends on whether your app is scene-based. In a scene-based app, this property takes the value of the most active scene, which it determines from each scene's `activationState` property. A scene-based app launches in the background state, and transitions between its states as scenes connect, change their states, and disconnect. For scene-based apps, use `UISceneDelegate` to respond to changes in an individual scene's life cycle. In a sceneless app, the property's value is always the app's current state. The app is inactive at launch, and then is generally in either an active or background state. The app may become inactive for a short period — for example, when transitioning between active and background states, when the system presents an alert in front of it, or when the system displays the application switcher. For sceneless apps, use `UIApplicationDelegate` to respond to the app's life cycle changes. ; https://developer.apple.com/documentation/uikit/app_and_environment/managing_your_app_s_life_cycle:

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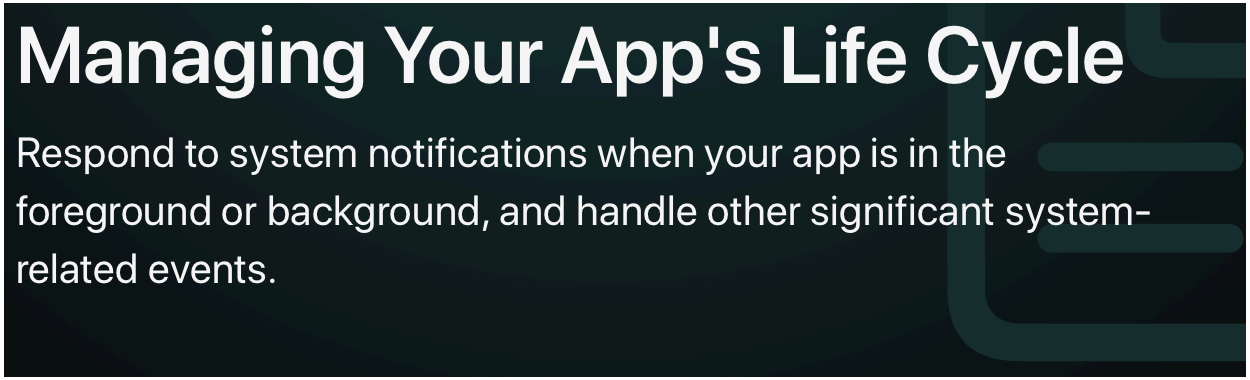
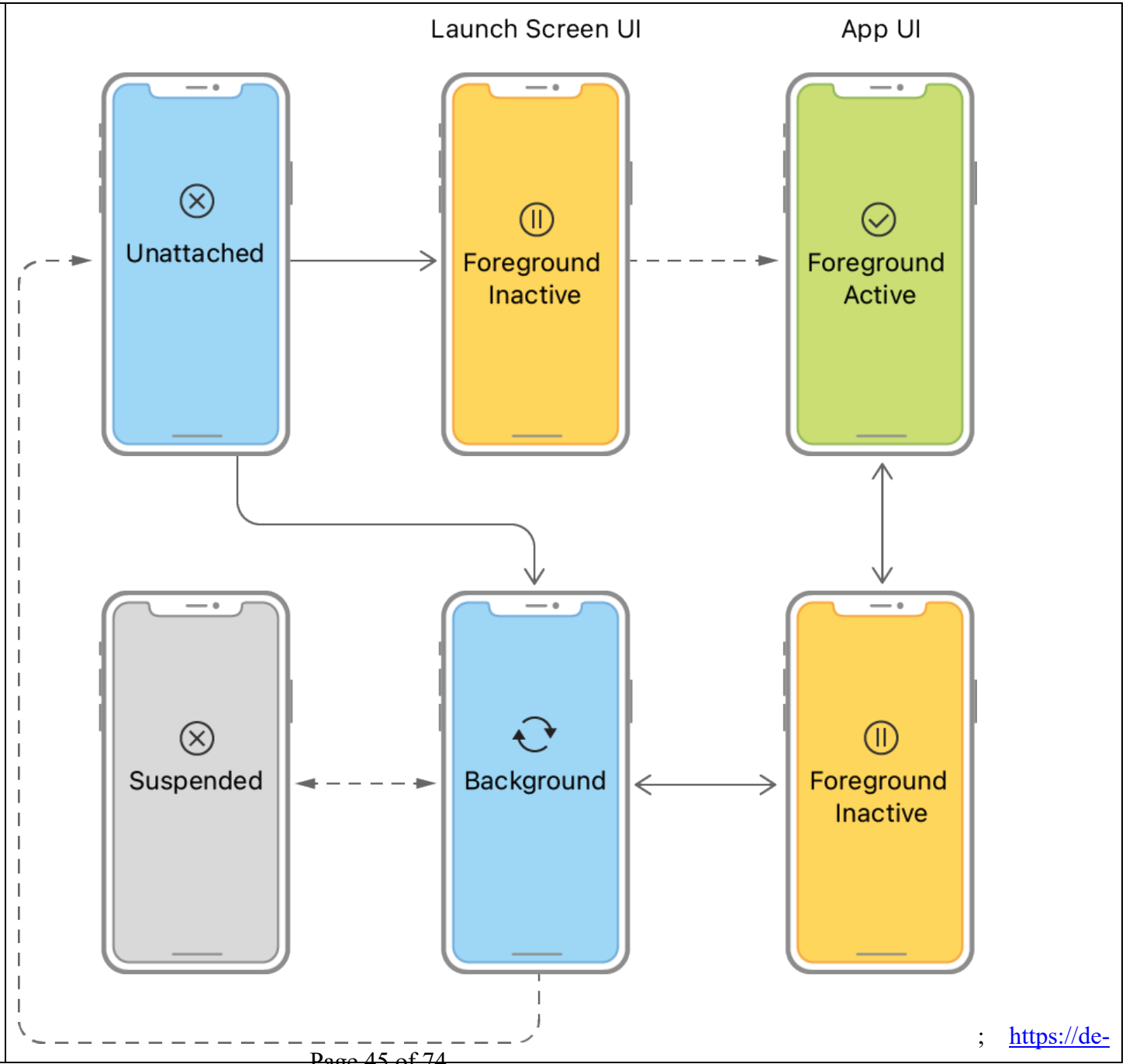
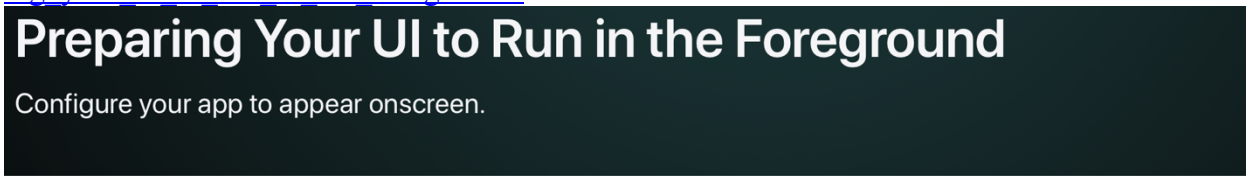
	 ## Overview The current state of your app determines what it can and cannot do at any time. For example, a foreground app has the user's attention, so it has priority over system resources, including the CPU. By contrast, a background app must do as little work as possible, and preferably nothing, because it is offscreen. As your app changes from state to state, you must adjust its behavior accordingly.

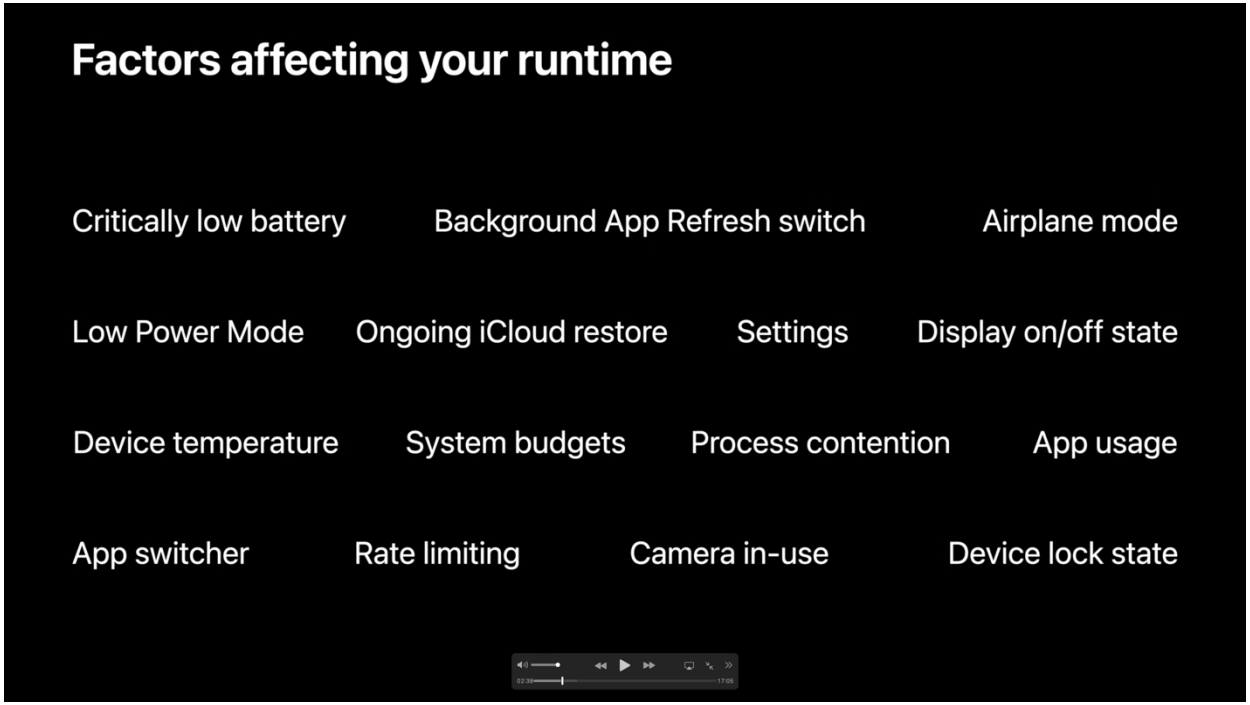

Launch Screen UI
App UI
Unattached
Foreground Inactive
Foreground Active
Suspended
Background
Foreground Inactive

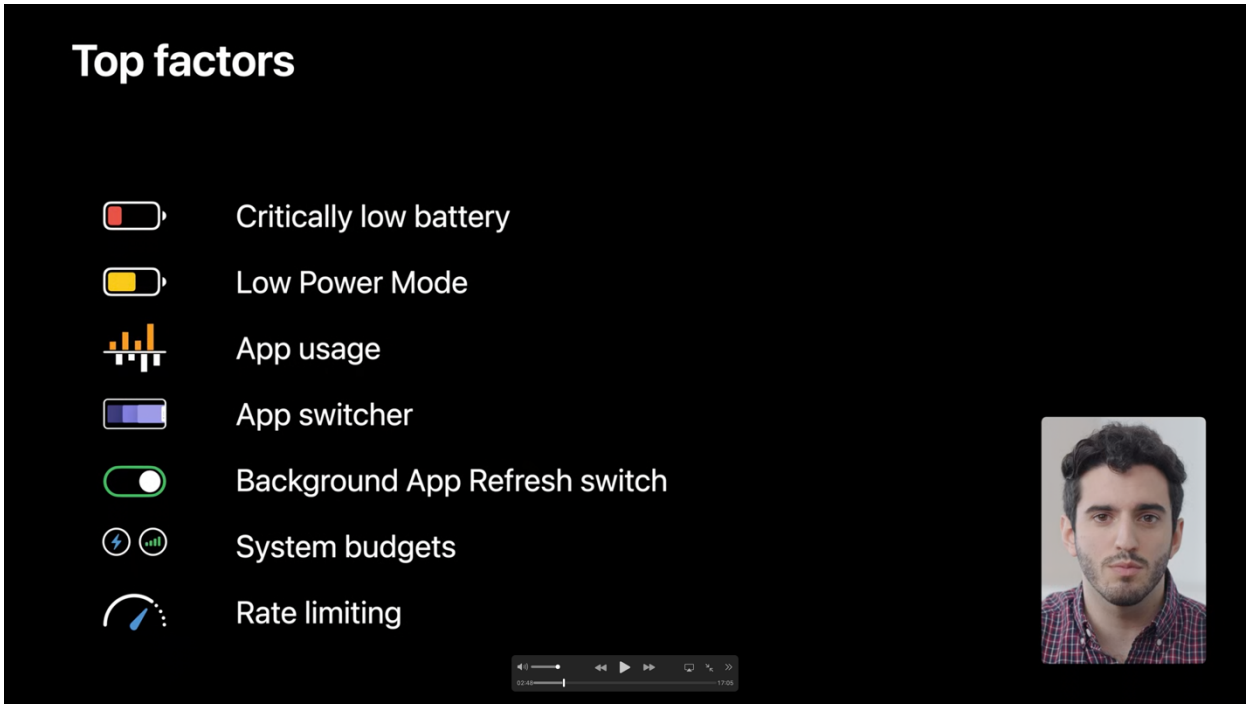
; https://de-

Claim	Public Documentation
	veloper.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/:  ## Overview Use foreground transitions to prepare your app's UI to appear onscreen. An app's transition to the foreground is usually in response to a user action. For example, when the user taps the app's icon, the system launches the app and brings it to the foreground. Use a foreground transition to update your app's UI, acquire resources, and start the services you need to handle user requests.

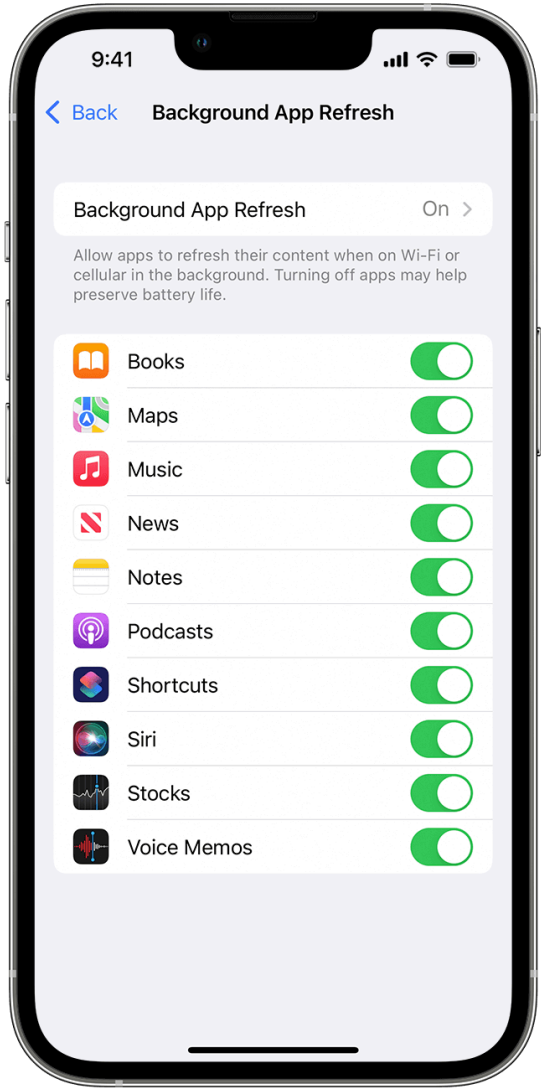
Claim	Public Documentation
	Configure Your User Interface and Initial Tasks at Activation The system moves your app to the active state immediately before displaying the app's UI. Activation is a good time to configure your app's UI and runtime behavior; specifically: • Show your app's windows, if needed. • Change the currently visible view controller, if needed. • Update the data values and state of views and controls. • Display controls to resume a paused game. • Start or resume any dispatch queues that you use to execute tasks. • Update data source objects. • Start timers for periodic tasks. Put your configuration code in one of the following methods: • For a scene-based UI—The `sceneDidBecomeActive(_:)` method of the appropriate scene delegate object. • For all other apps—The `applicationDidBecomeActive(_:)` method of your app delegate object. Activation is also the time to put finishing touches on your UI before displaying it to the user. Don't run any code that might block your activation method. Instead, make sure you have everything you need in advance. For example, if your data changes frequently outside of the app, use background tasks to fetch updates from the network before your app returns to the foreground. Otherwise, be prepared to display existing data while you fetch changes asynchronously. https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/; https://developer.apple.com/documentation/backgroundtasks/; https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-

Claim	Public Documentation
	ing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/; https://developer.apple.com/documentation/backgroundtasks https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask; https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask; https://developer.apple.com/documentation/backgroundtasks/bgtask; https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/; https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate; https://developer.apple.com/documentation/uikit/uiapplication/state; https://developer.apple.com/documentation/foundation/url_loading_system; https://developer.apple.com/documentation/foundation/urlsession; https://developer.apple.com/documentation/avfoundation/avplayer; https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback; https://developer.apple.com/videos/play/wwdc2019/707/; https://developer.apple.com/videos/play/wwdc2020/10063:

Claim	Public Documentation
	


Top factors
Critically low battery
Low Power Mode
App usage
App switcher
Background App Refresh switch
System budgets
Rate limiting

Claim	Public Documentation
	 *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com; https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data.
[1j] is interacting with the user in the device user interface foreground, and	The Accused Instrumentalities comprise one or more applications "interacting with the user in the device user interface foreground." For example, Apple's devices, including the iPhone 15 Pro, sold and used by T-Mobile classify applications and internet service activities in both foreground and background. *See, e.g.*, https://support.apple.com/en-us/HT202070:

Claim	Public Documentation
	# Use Background App Refresh After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content. If you want suspended apps to check for new content, go to Settings > General > Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.  https://support.apple.com/en-us/HT205234:

Use Low Power Mode to save battery life on your iPhone or iPad

Low Power Mode reduces the amount of power that your iPhone or iPad uses when the battery gets low.

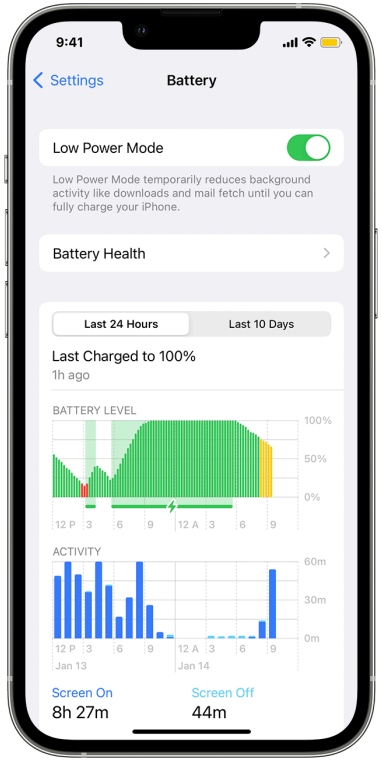
To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.

Low Power Mode reduces or affects these features:

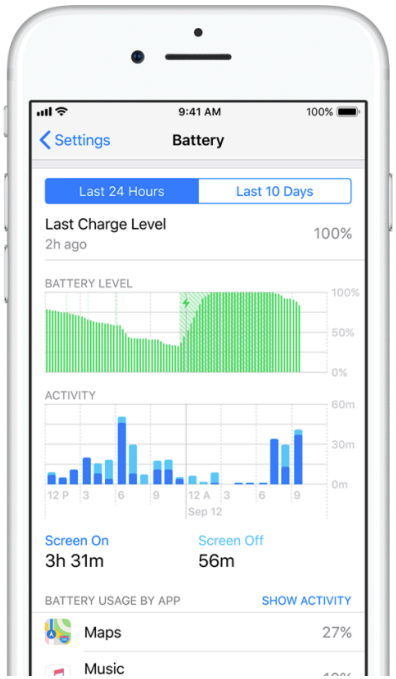
- 5G (except for video streaming) on iPhone 12 and iPhone 13 models[1]
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display[2]
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.



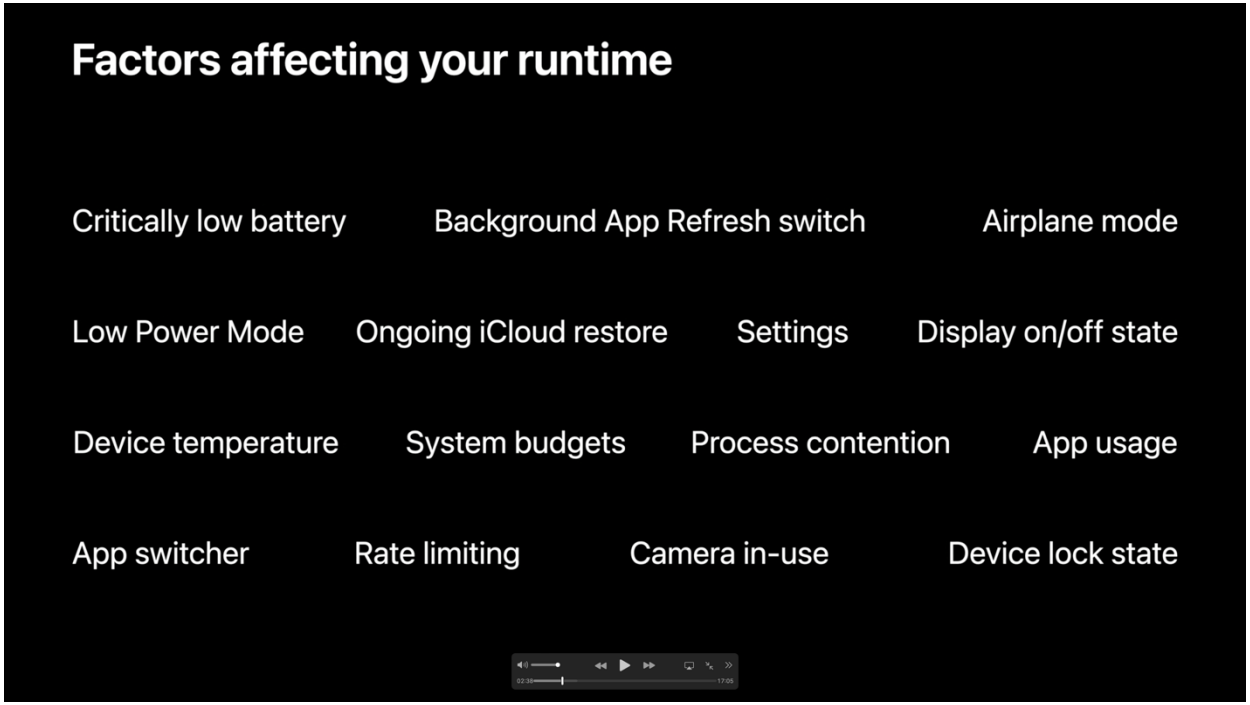
1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).

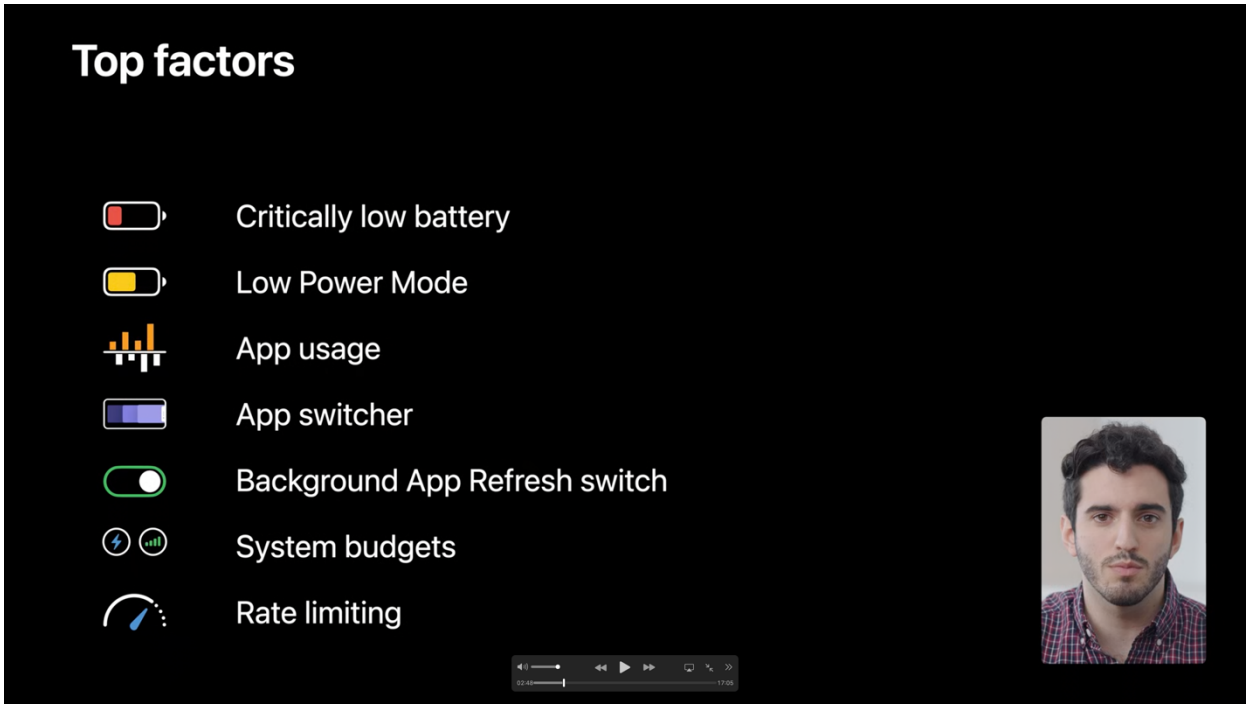
2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

Claim	Public Documentation
	https://www.apple.com/batteries/maximizing-performance/: **View Battery Usage information** With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings > Battery. Here are the messages you may see listed below the apps you've been using: **Background Activity.** This indicates that the battery was used by the app while it was in the background — that is, while you were using another app. • To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings > General > Background App Refresh and select Wi-Fi, Wi-Fi & Cellular Data, or Off to turn off Background App Refresh entirely. • If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings > Accounts & Passwords > Fetch New Data.  ; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate:

Claim	Public Documentation
	Instance Property **applicationState** The app's current state, or that of its most active scene. iOS 4.0+ iPadOS 4.0+ Mac Catalyst 13.1+ tvOS 9.0+ visionOS 1.0+ Beta `var applicationState: UIApplication.State { get }` **Discussion** The behavior of this property depends on whether your app is scene-based. In a scene-based app, this property takes the value of the most active scene, which it determines from each scene's `activationState` property. A scene-based app launches in the background state, and transitions between its states as scenes connect, change their states, and disconnect. For scene-based apps, use `UISceneDelegate` to respond to changes in an individual scene's life cycle. In a sceneless app, the property's value is always the app's current state. The app is inactive at launch, and then is generally in either an active or background state. The app may become inactive for a short period — for example, when transitioning between active and background states, when the system presents an alert in front of it, or when the system displays the application switcher. For sceneless apps, use `UIApplicationDelegate` to respond to the app's life cycle changes. ; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/; https://developer.apple.com/documentation/backgroundtasks/;

Claim	Public Documentation
	https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/; https://developer.apple.com/documentation/backgroundtasks https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask; https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask; https://developer.apple.com/documentation/backgroundtasks/bgtask; https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/; https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate; https://developer.apple.com/documentation/uikit/uiapplication/state; https://developer.apple.com/documentation/foundation/url_loading_system; https://developer.apple.com/documentation/foundation/urlsession; https://developer.apple.com/documentation/avfoundation/avplayer; https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback; https://developer.apple.com/videos/play/wwdc2019/707/; https://developer.apple.com/videos/play/wwdc2020/10063:

Claim	Public Documentation
	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Critically low battery
Low Power Mode
App usage
App switcher
Background App Refresh switch
System budgets
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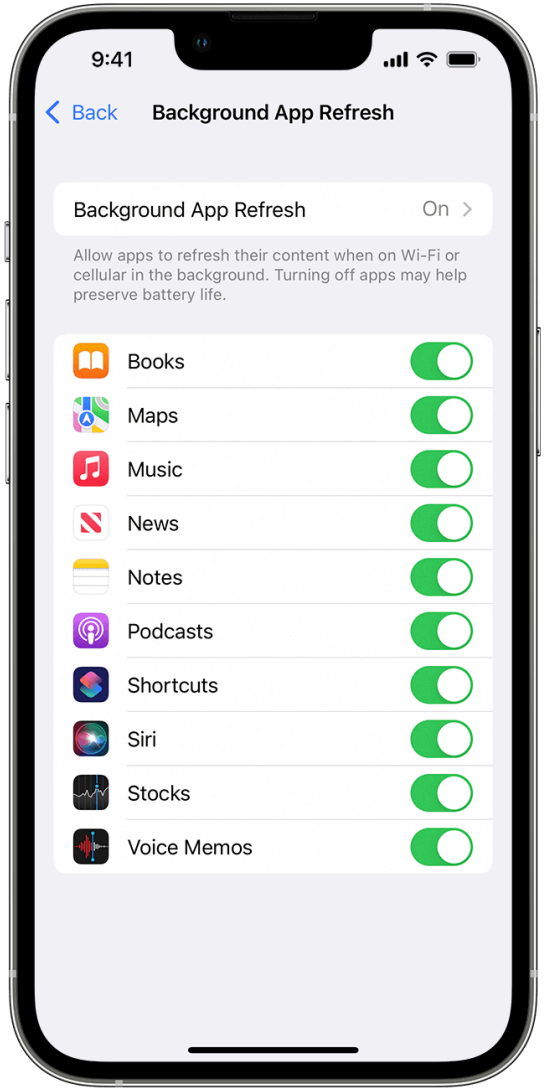
Claim	Public Documentation
	 *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com; https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data.
[1k] selectively allow or deny one or more Internet service activities by or on behalf of the particular application based on whether or not the particular application is one of the first one or more applications,	The Accused Instrumentalities "selectively allow or deny one or more Internet service activities by or on behalf of the particular application based on whether or not the particular application is one of the first one or more applications, the differential traffic control policy, including any applicable user augmentation of the differential traffic control policy, and the classifications performed by the one or more processors."

Claim	Public Documentation
the differential traffic control policy, including any applicable user augmentation of the differential traffic control policy, and the classifications performed by the one or more processors.	For example, Apple's devices, including the iPhone 15 Pro, sold and used by T-Mobile allow or deny internet service activities by or on behalf of applications based on classifications of particular applications and policies.. *See, e.g.*, https://support.apple.com/en-us/HT202070:

Claim	Public Documentation
	# Use Background App Refresh After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content. If you want suspended apps to check for new content, go to Settings > General > Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.  https://support.apple.com/en-us/HT205234:

Use Low Power Mode to save battery life on your iPhone or iPad

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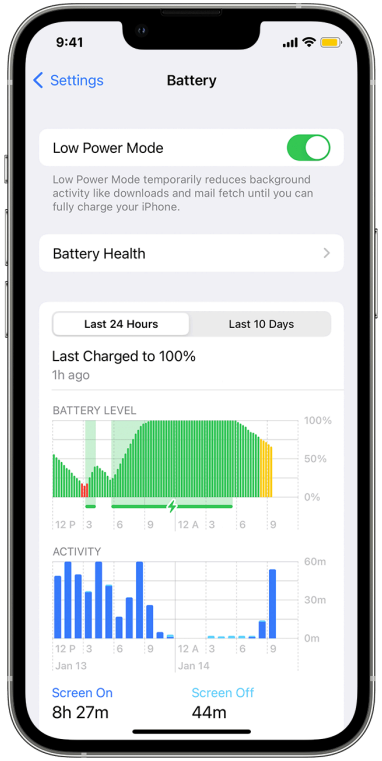
To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.

Low Power Mode reduces or affects these features:

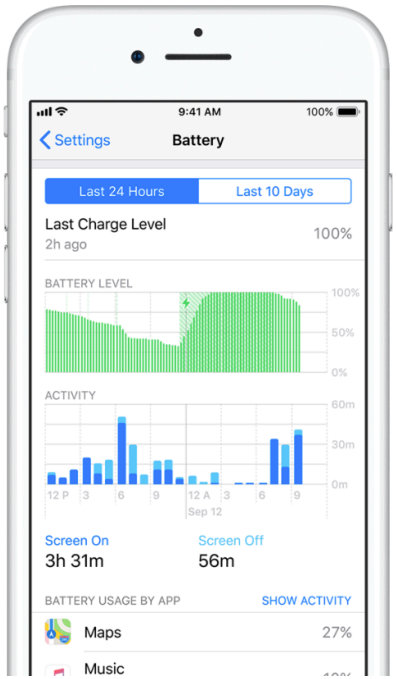
- 5G (except for video streaming) on iPhone 12 and iPhone 13 models[1]
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display[2]
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.



1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).

2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

Claim	Public Documentation
	https://www.apple.com/batteries/maximizing-performance/: **View Battery Usage information** With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings > Battery. Here are the messages you may see listed below the apps you've been using: **Background Activity.** This indicates that the battery was used by the app while it was in the background — that is, while you were using another app. • To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings > General > Background App Refresh and select Wi-Fi, Wi-Fi & Cellular Data, or Off to turn off Background App Refresh entirely. • If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings > Accounts & Passwords > Fetch New Data.  ; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate; https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/; https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/; https://developer.apple.com/documentation/backgroundtasks/; https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/;

Claim	Public Documentation
	https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/; https://developer.apple.com/documentation/backgroundtasks https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask; https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask; https://developer.apple.com/documentation/backgroundtasks/bgtask; https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/; https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/; https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate; https://developer.apple.com/documentation/uikit/uiapplication/state; https://developer.apple.com/documentation/foundation/url_loading_system; https://developer.apple.com/documentation/foundation/urlsession; https://developer.apple.com/documentation/avfoundation/avplayer; https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback; https://developer.apple.com/videos/play/wwdc2019/707/; https://developer.apple.com/videos/play/wwdc2020/10063:

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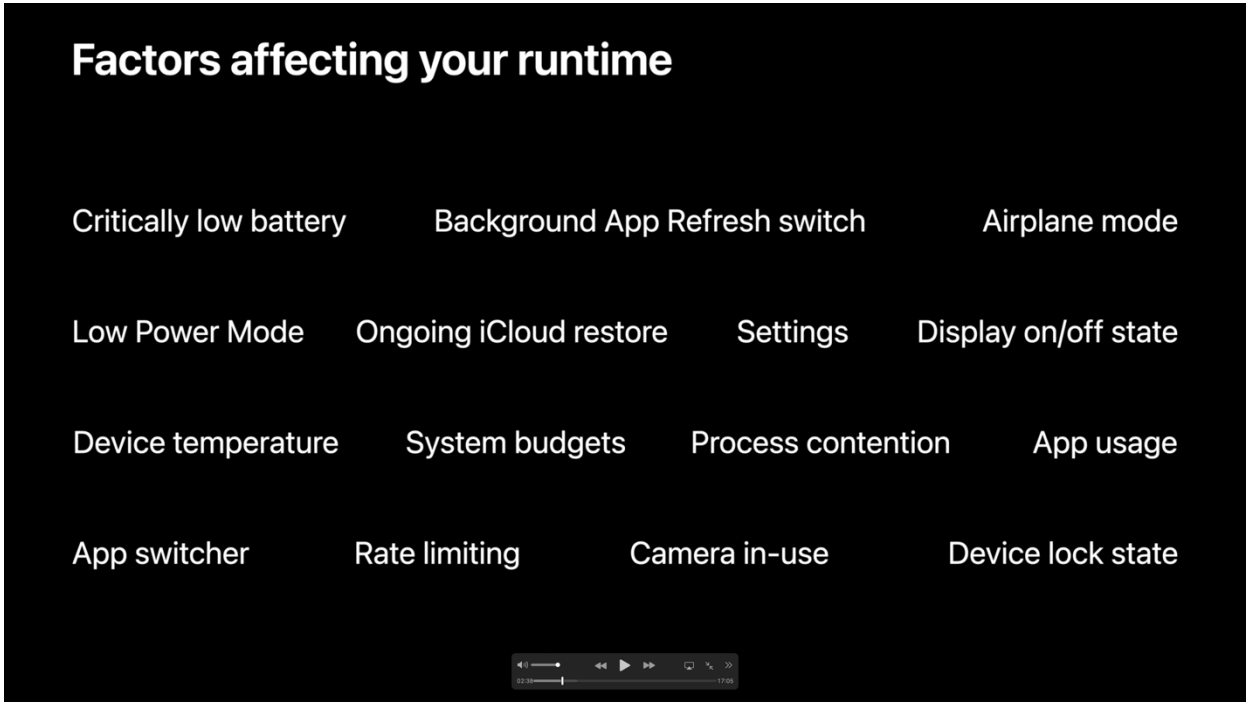
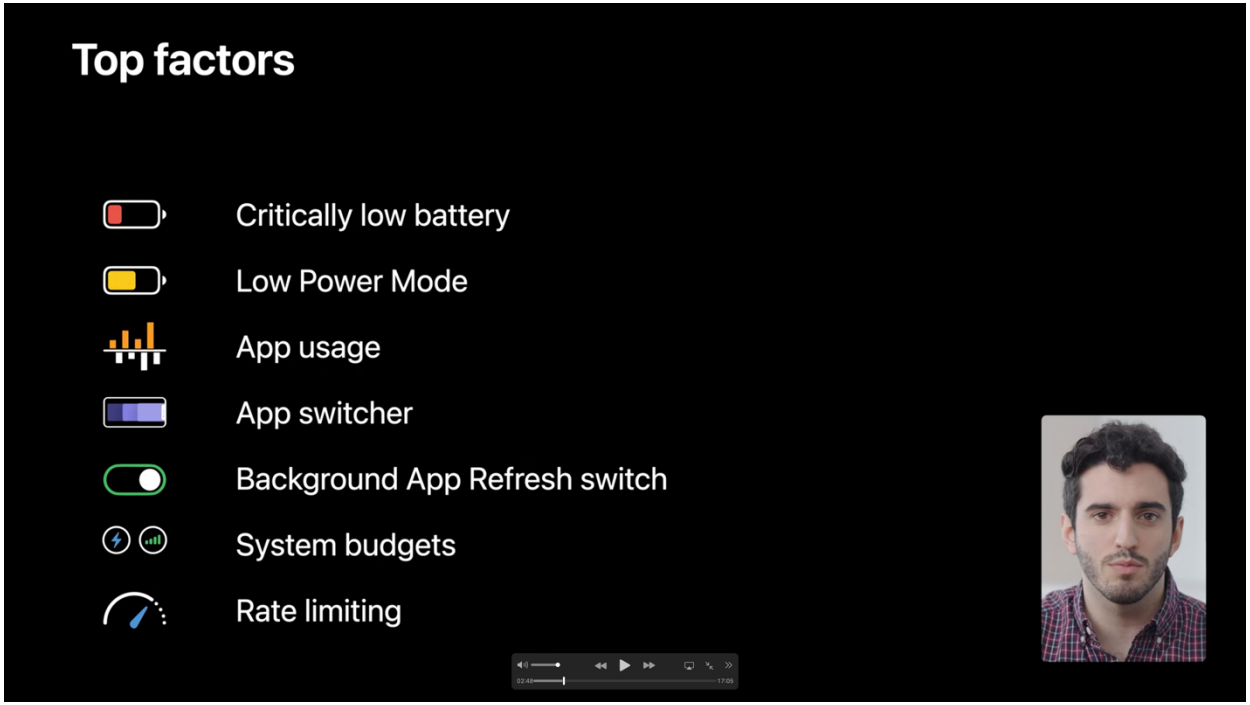
	

Claim	Public Documentation
	

Claim	Public Documentation
	 *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com; https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data.
2. The wireless end-user device of claim 1, wherein based on the differential traffic control policy the one or more processors selectively deny one or more Internet service activities by or on behalf of the particular application when the particular application is one of the	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein based on the differential traffic control policy the one or more processors selectively deny one or more Internet service activities by or on behalf of the particular application when the particular application is one of the first one or more applications, the classified wireless network is a WWAN type, and the particular application is classified as not interacting with the user in the device user interface foreground." *See*, for example, the disclosures identified for claim 1.

Claim	Public Documentation
first one or more applications, the classified wireless network is a WWAN type, and the particular application is classified as not interacting with the user in the device user interface foreground.	
3. The wireless end-user device of claim 2, wherein the one or more processors are further configured to override the selective denial of one or more Internet service activities by or on behalf of the particular application when the user has augmented the differential traffic control policy so as to indicate that Internet service activities are allowable when the classified wireless network is the WWAN type, and the particular application is classified as not interacting with the user in the device user interface foreground.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 2, wherein the one or more processors are further configured to override the selective denial of one or more Internet service activities by or on behalf of the particular application when the user has augmented the differential traffic control policy so as to indicate that Internet service activities are allowable when the classified wireless network is the WWAN type, and the particular application is classified as not interacting with the user in the device user interface foreground." *See*, for example, the disclosures identified for claims 1-2.
4. The wireless end-user device of claim 2, wherein based on the differential traffic control policy the one or more processors selectively allow one or more Internet service activities by or on behalf of the particular application when the particular application is one of the first one or more applications, the	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 2, wherein based on the differential traffic control policy the one or more processors selectively allow one or more Internet service activities by or on behalf of the particular application when the particular application is one of the first one or more applications, the classified wireless network is the WWAN type, and the particular application is classified as interacting with the user in the device user interface foreground." *See*, for example, the disclosures identified for claims 1-2.

Claim	Public Documentation
classified wireless network is the WWAN type, and the particular application is classified as interacting with the user in the device user interface foreground.	
5. The wireless end-user device of claim 1, wherein based on the differential traffic control policy the one or more processors selectively allow one or more Internet service activities by or on behalf of a second particular application and/or service when the second particular application and/or service is one of the second one or more applications and/or services and the classified wireless network is the WWAN type.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein based on the differential traffic control policy the one or more processors selectively allow one or more Internet service activities by or on behalf of a second particular application and/or service when the second particular application and/or service is one of the second one or more applications and/or services and the classified wireless network is the WWAN type." *See*, for example, the disclosures identified for claim 1.
6. The wireless end-user device of claim 1, wherein the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground when the user of the device is directly interacting with that application or perceiving any benefit from that application.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground when the user of the device is directly interacting with that application or perceiving any benefit from that application." *See*, for example, the disclosures identified for claim 1.

Claim	Public Documentation
7. The wireless end-user device of claim 1, wherein the user interface is further to provide the user of the device with information regarding why the differential traffic control policy is applied to the particular application.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the user interface is further to provide the user of the device with information regarding why the differential traffic control policy is applied to the particular application." *See*, for example, the disclosures identified for claim 1.
8. The wireless end-user device of claim 1, wherein the differential traffic control policy is part of a multimode profile having different policies for different ones of the network types.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the differential traffic control policy is part of a multimode profile having different policies for different ones of the network types." *See*, for example, the disclosures identified for claim 1.
9. The wireless end-user device of claim 8, wherein the one or more processors are further configured to select a traffic control policy from the multimode profile based at least in part on the classified wireless network type.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 8, wherein the one or more processors are further configured to select a traffic control policy from the multimode profile based at least in part on the classified wireless network type." *See*, for example, the disclosures identified for claims 1 and 8.
10. The wireless end-user device of claim 9, wherein the one or more processors are further configured to, when the classified wireless network type is at least one type of WLAN, select the traffic control policy from the multimode profile based at least in part on a type of network connection from the WLAN to the Internet.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 9, wherein the one or more processors are further configured to, when the classified wireless network type is at least one type of WLAN, select the traffic control policy from the multimode profile based at least in part on a type of network connection from the WLAN to the Internet." *See*, for example, the disclosures identified for claim 1 and 9.

Claim	Public Documentation
11. The wireless end-user device of claim 1, wherein the plurality of network types include three or more of 2G, 3G, 4G, home, roaming, and WiFi.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the plurality of network types include three or more of 2G, 3G, 4G, home, roaming, and WiFi." *See*, for example, the disclosures identified for claim 1.
12. The wireless end-user device of claim 1, the one or more processors further configured to receive an update to at least a portion of the differential traffic control policy list from a network element.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, the one or more processors further configured to receive an update to at least a portion of the differential traffic control policy list from a network element." *See*, for example, the disclosures identified for claim 1. As yet another example, the Accused Instrumentalities determine aspects of policies based on information from a network element. *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com; https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data; https://www.t-mobile.com/apps/t-mobile-app; https://www.t-mobile.com/apps/t-mobile-family-mode; https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings; https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings.
13. The wireless end-user device of claim 1, wherein the plurality of network types include a roaming WWAN type and a home WWAN type, and the one or more processors are to apply the differential traffic control policy to one of but not both of the roaming WWAN type and the home WWAN type.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the plurality of network types include a roaming WWAN type and a home WWAN type, and the one or more processors are to apply the differential traffic control policy to one of but not both of the roaming WWAN type and the home WWAN type." *See*, for example, the disclosures identified for claim 1. For further example, the policy can be based on roaming on a WWAN network. *See also, e.g.,* https://www.t-mobile.com/cell-phone-plans; https://www.t-mobile.com/cell-phone-plans/affordable-data-plans; https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness; https://prepaid.t-mobile.com;

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	https://www.t-mobile.com/cell-phone-plans/international-roaming-plans; https://www.t-mobile.com/support/coverage/domestic-roaming-data; https://www.t-mobile.com/customers/unlimited-roaming-sms-data; https://www.t-mobile.com/apps/t-mobile-app; https://www.t-mobile.com/apps/t-mobile-family-mode; https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings; https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings.
14. The wireless end-user device of claim 1, wherein the plurality of network types include the WWAN type and a WLAN type, and the one or more processors are to apply the differential traffic control policy to one of but not both of the WWAN type and the WLAN type.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the plurality of network types include the WWAN type and a WLAN type, and the one or more processors are to apply the differential traffic control policy to one of but not both of the WWAN type and the WLAN type." *See*, for example, the disclosures identified for claim 1.
15. The wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on a power state of the device.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on a power state of the device." *See*, for example, the disclosures identified for claim 1.
16. The wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on a device usage state.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on a device usage state." *See*, for example, the disclosures identified for claim 1.

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17. The wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on power control state changes for one or more of the modems.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on power control state changes for one or more of the modems." *See*, for example, the disclosures identified for claim 1.
18. The wireless end-user device of claim 1, wherein the differential traffic control policy defines that the first one or more applications can only access a first one of the network types during particular time windows.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the differential traffic control policy defines that the first one or more applications can only access a first one of the network types during particular time windows." *See*, for example, the disclosures identified for claim 1.
19. The wireless end-user device of claim 1, wherein the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground based on a state of user interface priority for the application.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground based on a state of user interface priority for the application." *See*, for example, the disclosures identified for claim 1.
20. The wireless end-user device of claim 1, wherein the second one or more applications are not subject to a differential network access control that is applicable to the first one or more applications.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the second one or more applications are not subject to a differential network access control that is applicable to the first one or more applications." *See*, for example, the disclosures identified for claim 1.

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21. The wireless end-user device of claim 1, wherein the one or more processors are further configured to classify between: user applications; system applications, utilities, functions, or processes; and operating system application, utilities, functions, or processes.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the one or more processors are further configured to classify between: user applications; system applications, utilities, functions, or processes; and operating system application, utilities, functions, or processes." *See*, for example, the disclosures identified for claim 1.
22. The wireless end-user device of claim 1, wherein the second one or more applications or services comprises foreground services.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the second one or more applications or services comprises foreground services." *See*, for example, the disclosures identified for claim 1.
23. The wireless end-user device of claim 1, wherein selectively deny comprises intermittently block when the one or more Internet service activities are requested during selected time windows.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein selectively deny comprises intermittently block when the one or more Internet service activities are requested during selected time windows." *See*, for example, the disclosures identified for claim 1.
24. The wireless end-user device of claim 1, wherein the one or more processors are configured to prevent the first one or more applications from changing the power state of at least one of the modems, and to not prevent the second one or more applications from changing the power state of the same modem or modems.	The Accused Instrumentalities comprise "[t]he wireless end-user device of claim 1, wherein the one or more processors are configured to prevent the first one or more applications from changing the power state of at least one of the modems, and to not prevent the second one or more applications from changing the power state of the same modem or modems." *See*, for example, the disclosures identified for claims 1 and 17.